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An Analysis of Farm Family Organization in Oklahoma.

Otis Durant Duncan
Louisiana State University and Agricultural & Mechanical College

AN ANALYSIS OF FARM FAMILY ORGANIZATION IN OKLAHOMA

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AN ANALYSIS OF FARM FAMILY ORGANIZATION IN OKLAHOMA

A Thesis

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By

Otis Durant Duncan

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M. S., Agricultural and Mechanical College of Texas, 1926

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ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

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AN ANALYSIS OF FARM FAMILY ORGANIZATION IN OKLAHOMA

(Abstract)

This study analyzes farm family organization in the north central winter wheat area of Oklahoma with reference to its socio-economic contents and import. It seeks to determine the relationship between the economic organization of the agriculture of the area and the sociological structure and organization of the farm families residing in it.

The fundamental hypothesis of the study is that there are certain demonstrable and fairly uniform relations between the economic factors underlying the agricultural organization of a type of farming area and its social institutions, and that these factors are reflected in the internal structural and functional workings of the farm family itself. Economic factors conditioning farm family structure include (1) the occupation of farming, (2) the size of the farm unit and the investment in farm operations, (3) the farm tenure status of the family, (4) the net worth of the family, (5) the work organization of the family, and (6) the net spendable family income. Likewise the following important sociological and biological factors are influenced by the economic factors and in turn are indicative of the nature of farm family organization: (1) the ages of farmers and their wives at marriage, (2) the occupational mobility and the migration of the farmer, (3) inter-occupational selection in marriage, (4) the age of the farm operator when he commences to work for himself, (5) the fertility of the married pair, (6) the age and sex composition of the family, (7) the education of the members of the family, (8) the presence or absence of persons other than parents and offspring

in the household, and (9) the socio-religious affiliations of the family.

The methods of analysis employed in the study are the simpler statistical processes and operations. The primary data were gathered in a survey using uniform schedules designed specifically for the present study. The schedules were taken by trained field workers in a manner similar to Federal Census enumerations. Data were procured from 562 farm families living in the north central winter wheat area in the late spring of 1938. The sample was taken to represent as closely as possible the various socio-economic groups composing the farm population studied. Secondary data were derived from the Federal Census and various documents published under the authority of the State of Oklahoma.

Among the conclusions drawn from the study are the following:

1. The farm family epitomizes accurately in its organization and activities the socio-economic life of an agricultural area.

2. In the agricultural community the farm family is the prime agency of production, distribution, and consumption of wealth.

3. The business of farming is essentially a family enterprise; it represents a coordination and a utilization of the energies and resources of the entire family.

4. The data of this study support the general conclusion that the family is the central core of rural life. The farm family is not only the agency for the production of human beings, but it is also the chief agent for the nurture, protection, moral instruction, education, and training of its members. In addition it is the primary institution for the care of the aged and other dependent classes of rural people. The family is also the chief medium for the mitigation of the psycho-social isolation which without it would result inevitably from the spatial

isolation of the farm population. One of the most important social functions performed by the farm family is that of preserving the cultural achievements of the human race and of passing on the cultural heritage from one generation to the next.

5. The data show that the farm family has a highly developed sense of the future, and under favorable circumstances it lays by in store against the vicissitudes of old age, misfortune, and other reverses, thus attaining a high degree of stability and security.

6. These Oklahoma farm families base their chief hope of security in the ownership of land and other properties designed to facilitate the use of land.

7. In the budgets of these families there is an unending competition between the prime costs of farm operation, the expenses of living, and the costs of preserving the family investment intact.

8. The study suggests that one of the most important questions which remains still unanswered is, what is the optimum combination of human, land, and other factors needed under the conditions of a given type of agriculture to maintain the family in a state of physiological adequacy, to preserve its levels of cultural attainment to an extent commensurate with its existing needs, to provide for the contingencies of misfortune and old age, and to preserve the farm in a productive state for its children?

9. The indications are that in the future the landless farm family in strained economic circumstances will find as one of its most difficult problems that of establishing itself upon the land.

10. The age of the farm operator at beginning work for himself and

at marriage forms an important clue as to his future success in farming and in family life.

11. The study shows that a sizeable proportion of the families always remain in the lower socio-economic strata of the farm population. Excessive migration is a characteristic of those farm families which seem never to be able to establish themselves on a firm economic footing.

12. The family life cycle of the renter family differs significantly from that of the owner. Renters marry earlier, and have children somewhat sooner after marriage than owners. Furthermore the renter family retains its children within the household a shorter time than the owner family. This short and erratic family life cycle appears to be one of the more significant social effects of farm tenancy.

13. The younger generation of farmers in Oklahoma married at an earlier age than farmers of the older generation. This is especially true of those children of farm families who remain on farms.

14. The study yielded some significant facts relative to selective migration. In general, female children are more likely to migrate to towns or cities than males. Children, both male and female, of tenants and other economically disadvantaged families are more likely to migrate to non-farm centers than are those of either owner or the more well-to-do families. When the children of the owner, or families of the upper economic strata, leave the farm they have better chances of entering proprietorial business, the professions, or skilled labor, than those of tenants or families in the lower economic groups. This means that, for the most part, the future farm population of the area will likely be drawn from the more substantial elements of its present population,

and that those youth whose origins are in the poorer economic strata of the farm population will find it increasingly difficult to establish themselves on the farm.

15. In marriage, farm children are more likely than were their parents to find mates outside of agriculture. This is due to the growth of towns and cities, increased cityward migration, and probably to the expanded facilities for communication and transportation.

16. Farm renters are much more migratory than farm owners. Almost four times as large a proportion of renter as of owner operators have lived on their present farms for four years or less, and only 4.7 percent of the renter as compared with 43.8 percent of the owner operators have lived on their present farms 20 years or longer. These differences in the residential stability of renter and owner farmers are believed to account largely for the apparently greater socio-economic stability of owners. Moreover, frequent moving is correlated negatively with education, net worth, size of investment in farm operations, and gross incomes of the farm population studied.

17. Church membership and participation are most characteristic of the more stable economic classes of the farm population, and are also associated with conservatism in marriage.

PART I. SCOPE AND METHOD

CHAPTER I

INTRODUCTION

1. Date and Place of Study.

The study presented here is an analysis of farm family organization in Oklahoma based upon a survey of 562 farms which was conducted during the late spring and early summer of 1933.[1] In general, the study is concerned with the socio-economic aspects of farm family organization; the formation, growth, and structure of the farm family; social processes within the farm family; and the influences of the farm family upon its members. The families interviewed resided for the most part in Alfalfa, Kingfisher, and Logan Counties which comprise parts of what is popularly called the north central winter wheat area of Oklahoma. However, a number of farms were visited in the southern fringes of Garfield and Noble Counties, and in the southeastern portion of Major County. The north central winter wheat area is reckoned as including Alfalfa, Blaine, Canadian, Garfield, Grant, Kay, Kingfisher, Logan, Major, Noble, Woods, and the northwest part of Oklahoma counties. The sub-area actually covered by the survey extends from the southeastern to the northwestern extremities of the winter wheat area. Previously prepared schedules were carried by the field workers, as in a census survey, and the replies given then were recorded in the presence of the informants who were asked to check and verify the entries before the enumerators left the scenes of the interviews.[2] The study applies to the farm family in a type of agriculture

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[1] The writer was assisted in the field work for this study by Leroy R. Brant, Ben G. Duncan, Errol D. Hunter, Richard H. Simmons, and Harold Woodson.

[2] A copy of the schedule used is shown in the Appendix.

which, in Oklahoma, is second only to cotton in commercial importance and in the numbers of people engaged in it. This represents the first general study of the farm family in the main wheat growing farming region of Oklahoma, and is, therefore, the first source of available data having to do directly and solely with farm family organization in that area.

There are several reasons why the winter wheat area was chosen as a base for the study. In the first place, it is one of the most important areas of Oklahoma agriculture from the standpoints of aggregate agricultural wealth and of annual values of farm commodities produced. Second, a representative sociological study of the area had never been conducted before, and the State Agricultural Experiment Station felt that there was a distinct and urgent need for the information which a comprehensive study of typical portions of the area might reveal. It was thought that a sociological study of the pattern of farm family life existing there would be of tangible value in helping to determine needed modifications in the future agricultural programs of not only this but also of other areas of similar social, economic, and geographic characteristics in the State and the Southwest. Third, an examination of federal census reports, as well as of casual sources of information, had indicated a fair degree of homogeneity of the population from the standpoint of racial and national characteristics. Also there is comparatively little economic heterogeneity in the area. That is, the basic industry is agriculture, there being little oilfield or manufacturing activity, and even the larger urban communities are primarily either local or terminal farm trade centers. Fourth, for a number of years, research and extension projects in farm management have been under way in this section, and it was believed

that the sociological survey would be a convenient supplement for those studies, and in addition it would be amplified and supported by them. These constitute the more tangible reasons why the investigation was projected for the winter wheat area. By and large, the study simply is resolved into what amounts to a definite step, division, or unit of the long time continuous research program in rural sociology at the Agricultural Experiment Station.

2. Nature and Purpose of the Study.

The objective of this investigation is to gain a definite conception of the general cross section of farm life in the area with special emphasis upon the structure and organization of the farm family institution itself and the social and economic factors that may be functionally related thereto. The principal economic factors which are believed to affect the nature of farm family organization are (1) the occupation of farming itself, (2) the size of the farm unit and investment operated, (3) the farm tenure status of the family, (4) the net worth or the economic and financial status of the family, and (5) the net spendable income of the family. Likewise, there are certain socio-economic as well as bio-social factors which are believed to be related to the structure and organization of the farm family. Among the socio-economic factors are (1) the age at which the operator began working for himself, (2) the occupational history or mobility of the operator, and (3) inter-occupational selection in marriage of operators and their wives. Bio-social factors related to family organization include (1) the ages of the operator and his wife at marriage, (2) the fertility of the family, (3) the age and sex composition of the family, (4) the presence or absence of other persons than parents and offspring in the household, and (5) the education of the operator and

his wife. These and other subordinate variables are believed to be conditioning or limiting factors in determining the pattern of farm family life in the area surveyed and in rural society generally.

The basic assumption or hypothesis of the study is that there are certain demonstrable and fairly uniform relations between the economic factors underlying the agricultural organization of a type of farming area, or sub-region, and the division made of the net spendable income among various classes of items in the family living budget. Ernst Engel, beginning as far back as 1857 and continuing his study up to 1895, found definite relations between the size of the incomes of wage earning families of Saxony and other parts of Europe and the relative amounts spent for the satisfaction of physical and cultural wants. Obviously, the conditions which determined the size of the incomes received by the families in Engel's studies were important factors in determining the total satisfactions of economic wants possible for those people. Whether environmental influences affect the family budget directly or indirectly, the result is the same. The problem, then, is to find out if possible which factors are of direct and which are of indirect importance in limiting the size of the net spendable income.

Furthermore, Frédéric LePlay and the "LePlay School" have been able to interpret family organization and even political institutions in terms of "Work, Place, and People." This carries the hypothesis still further, and suggests that it is possible to associate such phenomena as the family life cycle, vital processes, cultural advancement, occupational absorption, work habits, and socio-religious participation of the family and its members with the type of agriculture and the economic environment.

Again, the studies of E. L. Kirkpatrick, C. C. Zimmerman, and

numerous other American students of the farm family living budget have demonstrated objectively that there are significant variations in living standards as between different regions of the United States, and even between sub-regions within individual states. In recognition of the fact that areas have their own peculiar environmental limitations, and that in general these are manifested in the lives and habits of farm people at large, it is assumed that in a definitely chosen area, such as the winter wheat section of Oklahoma, it will be possible to study and interpret the social and economic aspects of family structure as definite phenomena of the area itself. These earlier studies will be discussed appropriately in the next chapter of this study.

The assumption that family organizational patterns are related to the socio-economic environment in a functional sense does not do violence to the established fact that there are certain phenomena of family life which are constant in time and in space. For example, the family wherever it may be found, is composed of parents and offspring. There are always to be found rules regarding the ownership or holding of property, the relations of parents and children, of parents with parents and children with children. There are rules of work, of marriage, and definite conceptions of the status of the family in respect to the neighborhood, the community and the State. Births and deaths, age and sex compositions, growth and decay of the biological family are all universal phenomena. However, it is known that in different environments and in different times the manifestations of these phenomena vary. Why do they vary? How do they vary? and, with respect to what do they vary? Also what are the results of such variations as may occur? The answers to these and questions of similar character furnish the motives for studies of family organization.

Because of the practical inseparability of the farm family and the business of farming under prevailing conditions of American agriculture, it must be recognized that the current expense of farm operation is a factor which competes directly with family living in the gross annual income received. Therefore, in an area of high cost farming, the potential spendable income available for family living will be relatively lower in proportion to the gross income than in more favored areas where operation costs are generally low in proportion to the total income. In all farming areas the net spendable income for family living is the residue which remains after all farming overhead is deducted from the gross receipts. It is self-evident that the ability of the family to live well, then, is determined in a large measure not only by the productive capacity of the farm unit, but also by the expertness of the farm operator as a business manager in the affairs of farm operation.

In other words, the thesis of this study is that the pattern of the farm family institution is at least in part conditioned and modified by the economic organization of the agriculture of the area of its habitat, and that its growth and activities are related functionally within limits to its socio-economic environment. The study, therefore, is addressed to the task of trying to find out what are the functional relationships between the family and its milieu and to explain them objectively on the basis of available factual data.

3. Sources of Data.

As was mentioned above, the primary data were procured by means of a survey of 562 farm families residing in the winter wheat section of Oklahoma. The families were visited personally, and were asked for their voluntary cooperation in supplying the data called for in the questionnaire

prepared in advance for this particular survey. Owing to the fact that the land survey system of Oklahoma is what may be called popularly the "checkerboard system," that is, in sections one mile square with a road on each of the four sides, the matter of gaining access to the farms was simplified greatly. The prevailing condition is that each section of land is divided into four quarters of 160 acres each, and it was usually possible to obtain an interview with at least one farmer to the square mile. The principal difficulties encountered by this method of procuring data were those of finding the family head at home and of enlisting his cooperation. If he refused to respond or if he could not be found, the enumerator could only go to the next farm. No farm was deliberately passed by and none was sought out because of its appearance, the reputation of the family in the community, or for any other arbitrary reason. The object of this sampling procedure was to obtain a sample of farm families which would be typical of those of the area as a whole. That this was achieved with a degree of satisfaction will be shown later.

Every possible precaution to avoid preventible bias in the sampling was exercised. In a study which must depend upon the good will of informants, it is not always possible to preserve the canons of random sampling. However, there are conditions which are at least partly amenable to control. The selection was on the basis of types of farming, which in this case was wheat growing. From the federal census, the areas were so chosen that on an average the minimum amount of land planted to wheat was equal to approximately half the total cultivated crop land. In some parts of the surveyed area the number of acres of wheat was far greater than half that of all cultivated crops and on individual farms sometimes it was less than half. This rule was observed because it was desired to study the farm family under the conditions imposed upon it by a predomi-

mently each grain system of farming.

While it is not contended that the facts obtained by this survey are absolute from the standpoints of accuracy and completeness, it is believed that the answers to the questions were supplied in good faith and to the best of the informant's ability, knowledge and belief. This being true, the data will have the quality of representativeness when taken collectively. It is conceded that very few farmers keep records, and, of those who do, fewer still have records sufficiently complete, uniform and extensive to cover all the points raised in a survey schedule. There is doubt if uniformity and accuracy could be preserved with complete exactness even with personal record sheets prepared and supervised for a year by the investigator. Furthermore, experience seems to justify the belief that literal accuracy may be obtained only at the sacrifice of representativeness, since only the more intelligent and better educated classes of farmers are able to endure the irksomeness of record keeping. Even if the survey method has numerous admitted objections, it has the virtue of practicability as a device for studying fairly large samples. It has another advantage in that the field workers are trained and have written directions designed to secure comparable and uniform interpretations of all questions asked, and they in turn are subject to supervision by the investigator. With individually filled record books, and with mailed questionnaires this advantage is lacking in a large degree. It is believed, therefore, that in spite of any defects of detailed items, the survey method which was used in this study will stand the tests of scientific criticism as well as, or better than, any of the remaining methods in current use for obtaining data from relatively large samples.

4. Representativeness of the Sample.

As has been noted, the first consideration in selecting the specific areas to be surveyed was that they were to be typical of the system of farming prevailing in the north central winter wheat section of Oklahoma as a whole. They were chosen on the basis of geographical location and of factual information ascertainable from the federal census of agriculture in advance of the survey. The sample has been checked for representativeness against the winter wheat area in respect to three important points, (1) the tenure status of farm operators, (2) the average size of farm investments operated, and (3) the distribution of crop enterprises on the farms when reduced to the average number of acres devoted to each type of crop. What is known to agricultural economists as the north central winter wheat area of Oklahoma lies immediately south of the Kansas border and occupies a triangular body of land the base of which takes up about one-fourth of the distance along the borders of the two states. The apex of the triangle reaches southward to about the mid-point of the state. The cities of El Reno, Alva, and Ponca City may be used roughly as points which determine that area.

On the basis of tenure description, as can be seen from Table 1, the farms visited during the course of the survey were closely similar to those of the counties from which they were taken as well as those of the winter wheat area as a whole. The principal exceptions are that in the survey there was a tendency toward more full owners and fewer tenants than were found for this area by the 1930 census enumerators, but the differences are small enough to be attributable mostly to chance factors in enumeration. It was the practice during the survey to make contacts with all farmers possible in the localities visited and to leave to chance

the distribution of farmers among the different tenure groups.

Table 1. Tenure Distribution of Farmers Interviewed Compared with That of Farmers in the Winter Wheat Area of Oklahoma

Tenure status of farm operators	Farmers included in this survey (1932-33)	Farmers in counties where survey was taken (1930)	Farmers in 11 counties of winter wheat area (1930)
Total farms (number)	562	7,605	28,441
Percent of all farmers	100.0	100.0	100.0
Full owners	38.1	33.5	32.9
Additional owners	14.9	15.0	16.5
Tenants and laborers	47.0	51.5	50.6

See Fifteenth U. S. Census, Agriculture, Oklahoma, 2nd. Series, County Table XII for sources of comparative data.

As used in this study, full owners are defined as farmers who owned all the land they operated. Additional owners are farmers who owned a farm of any size but rented additional land who with their owned land operated as a farm unit. Tenants and laborers are farmers who either rented all the land comprising their personally operated farms or those who worked as hired men. In subsequent portions of the study all farm owners will be treated as a single group because the absolute number of additional owners is too small to admit of minute sub-division even though the proportion of farmers in this class is a little larger in the sample than in the winter wheat area as a whole.

In Table 2 the average value of farm investments on the surveyed farms is compared with the averages for the counties and the farming region of which they are a part. Obviously, this is difficult to do for two reasons. First, there was a rapid decline in farm values between the taking of the census in 1930 and the time the survey was made in 1933. Second, during this period, replacements on worn-out machinery and repairs

on buildings were seldom made, while the numbers of livestock on farms increased greatly.

Table 2. The Average Size of Farm Investments for Operated Farm Units Among 562 Farmers Surveyed and for All Farmers in the Three Counties Surveyed and the Eleven Counties Comprising the Oklahoma Winter Wheat Area

Form of investment	562 surveyed farms (1932-33)	Three counties surveyed* (1930)	Eleven winter wheat counties* (1930)	Adjusted to basis of 1933 index of farm values**	
				Three surveyed counties	Eleven winter wheat counties
Total investment	$6,097	$12,154	$13,087	$7,312	$7,869
Land and buildings	4,759	10,499	11,258	6,278	6,720
Implements and machinery	749	822	904	689	758
Livestock	589	833	945	345	391

*United States Census of 1930, Agriculture, Oklahoma, by Minor Civil Divisions, pp. 4 ff. Also 2nd Series, County Table X, for comparative data.

**In adjusting these figures in Table 2 to 1933 values, the index used for livestock was that developed by Lippert S. Ellis, in Oklahoma Farm Prices: Current Farm Economics Supplement, Stillwater: Okla. Agric. Exper. Station, Ser. 49, p. 86. For the index of farm real estate values, see E. H. Weisking, The Farm Real Estate Situation, U.S.D.A. Cir. no. 18, Oct. 1927, p. 6, and U.S.D.A. Crops and Markets, Vol. 9, no. 5, May, 1932, p. 183. For implements and machinery the index of price of commodities used in production, U. S. Bur. Agri. Econ., The Agricultural Situation, Vol. 18, no. 2, Feb. 1934, p. 19, was used as the basis of adjustment. It is true that this is a crude estimate at best for farm machinery, because all available indexes referred to new machinery, while very few farmers had bought new machinery during the past several years, and the rate of depreciation for old machinery has been undoubtedly disproportional to the changes in prices for the new. A machine in the hand of a farmer undergoes a nominal depreciation whether it is used or not. Besides this, wear in use is generally greater than the actual cost of repairs because it will ultimately wear out in spite of annual repairs. This adjustment in values is intended only as a very rough approximation. For further comparisons, see P. H. Stephens and Emil Rauchenstein, Systems of Farming in Oklahoma, Stillwater: Okla. Agric. Exper. Sta. Bul. 199, April, 1931, pp. 12-13.

By adjusting the 1930 census figures as nearly as possible to 1933 values and making mental allowances for the probability that farmers may have been inclined to under-value their property because of the depression psychology which prevailed in 1933, and also recognizing that there was very little replacement for actual depreciation of farm equipment between 1930 and 1933, it can be seen that there was a fair degree of similarity between the sizes of various forms of farm investment measured in terms of estimated monetary values for the surveyed farmers and the north central wheat area as a whole.

Because of the highly unsettled conditions which prevailed in Oklahoma agriculture between 1930 and 1933, it is doubtful if any comparisons of estimated monetary values of forms of investment, which are not for the same time, can be wholly valid. It seems reasonable that the conservatism which undoubtedly characterized farmers' appraisals of their properties in 1933 would have been much more marked than in 1930 when the last agricultural census prior to the survey was taken. Agricultural economists will admit generally that valuations are usually conditioned by many evasive factors which cannot always be exposed by even the most careful analysis. For these reasons, it is believed that the appraisals of farm investments given here are as accurate as could be had under the circumstances which prevailed, and that the variations which could not be obviated by any legitimate process do not constitute valid evidence of a biased sample. They represent simply the unavoidable inadequacy of this one measure of comparison.

The third test of representativeness of the sample used was the distribution of crop enterprises. This is shown in Table 5, where the percent of land farmed to each of the various types of crops is given for the surveyed farms, for the counties included in the survey, and for

the north central winter wheat section as a whole. An examination of these data will show a fairly high degree of consistency throughout, with only a few exceptions. In the first place, relatively more wheat and less pasture was found on the farms surveyed than was typical of the wheat area in 1930. Second, the planting of small feed grains seems to have been greater among the farmers surveyed in 1933 than in the larger area in 1930. Third, the greater planting of land to cotton in the three counties surveyed than on either the farms visited or the wheat section as a whole is due, no doubt, to the influence of that part of Logan County lying south of the Cimarron River which is a heavy cotton growing area, but which was not included in the survey. There is a fourth exception which deserves notice. That is, the farmers surveyed planted almost three times as great a proportion of their total crop land to miscellaneous crops in 1932-33 as did those of the entire area in 1930.

Table 3. Distribution of Crop Enterprises Expressed as Percentages of Total Land Farmed for the Surveyed Farms Compared with All Farms in These Counties and in the Winter Wheat Area

Uses of land in crop enterprises*	562 surveyed farms (1932-33)	All farmers in the three counties where survey was located (1930)**	All farmers in the north central winter wheat area (1930)**
Total	100.0	100.0	100.0
Wheat	43.2	36.6	34.0
Corn	6.0	6.3	6.7
Other grains	9.4	6.9	6.8
Cotton	1.1	5.1	3.0
All other crops	7.1	2.6	2.6
Pasture	33.2	42.5	46.9

*For a more detailed description of the area of this study than is given here, see J. O. Ellsworth and F. F. Elliott, Types of Farming in Oklahoma, Okla. Agric. Exper. Sta. Bull. 181, June, 1929, pp. 20-21. Also Stephens and Rauchenstein, op. cit., pp. 5-10.

**U. S. Census, Agriculture, Oklahoma, 1930, 1st. Series, County Table V.

One of the impressions that came as an inevitable result of contacts with the farmers studied was that in an attempt to avert the desperation

with which they were faced in 1932-33, they were forced openly to defy the law of supply and demand, and many other "principles" of economics. It was not unusual for a farmer to say, "My labor, feed, and seed, livestock, and machinery are worth almost nothing any way, and my taxes, interest, and depreciation are going on just the same. I just figured I would grow everything I could to raise a little cash and get what I could out of it, even if it was less than it cost me to produce it when my labor, livestock, and machinery are paid for at a reasonable charge. I had to do something, and did not know what else to do." It is believed that in a large measure this attempted solution of the problem of necessity accounts for the discrepancies which were described in the immediately preceding paragraph.

In very few cases, perhaps not over a half dozen, were any farmers found who had actually abandoned their land to weeds, and these were mostly men who were too old to do full time work on the farm under even prosperous conditions. In one case a farmer was visited who had quit growing wheat. This man had planted 240 acres in wheat in 1931-32, and had seeded no land whatever to wheat in the fall of 1932. In the spring of 1933 he had sown most of his wheat land to pasture and feed crops, and had planted 50 acres to cotton as an experiment as he said. These observations seemed to illustrate one important principle; that is, the non-reversibility of agricultural production as a whole. It is true that there can be some shifting in farm enterprises. No one area in Oklahoma is so limited by natural factors that a few changes cannot be made. If there is a contraction in the acreage of one cash crop, it is probable that another cash crop will be sought to replace it. The production of different types of livestock may supplement each other with a fair degree of success. But the psychology of the farmer, the nature of his land,

the character of his equipment, and his fixed costs almost forbid any extremely radical changes in the nature of his farming enterprises and operations. For these reasons, the general organization of agriculture in a specific area changes only slightly even under stress, in a period so short as that which elapsed between the 1930 census and the date of this survey.

The foregoing comparisons which have been made are substantial evidence that the 562 farm families used as a sample for this study are fairly typical of farm families in the north central winter wheat section of Oklahoma as a whole, at least in respect to their economic backgrounds and general mode of life. The natural factors in the environments of the surveyed families are as typical of the area as could be found because the sample was taken purely at random within the area itself. Perhaps the greatest single geographic variation in the area is in the matter of rainfall, as the mean annual precipitation in Oklahoma decreases about five inches per 100 miles in going from east to west across the State.[3] Due account of this fact was taken in the field work by extending the survey from the southeastern toward the northwestern extremities of the north central winter wheat area. In this way also the farms surveyed were representative of at least the major soil types found in the area.

Since the object of the survey was to study the social and economic aspects of farm family organization under the conditions of the north central winter wheat area, it is believed that once it is established that the farming habits of the people studied are typical of the area, it can be assumed that the farm family organization is also closely typical

[3] See O. E. Baker, A Graphic Summary of American Agriculture, U.S.D.A. Misc. Publication no. 105, Washington: Government Printing Office, 1931, p. 10.

and representative of this region. The above comparisons seem to justify this assumption, allowing for such deviations as may be attributable to chance and fortuitous circumstances.

5. Analysis of the Data.

The results of this survey are presented by means of simple, direct, and elementary statistical techniques. The emphasis is not upon the development of new methodology of research, but rather upon the application of existing methodologies to the end of discovering information which may be of practical value in the future programs of federal, state, and local agencies in determining socio-economic policies for farm life primarily in the area of the study and secondarily in other areas of Oklahoma or other states in which conditions approach in character those found here.

The data are presented in the mass, with such internal subdivisions as may seem appropriate. In the presentation, cross-tabulated frequency tables, with means, percentages, and simple coefficients of correlation are the principal devices resorted to as the basis of interpretations.

In the process of tabulation the entries were transferred from the schedules to large cards which were convenient for hand sorting. The data have been standardized where and when practicable in order that relationships may be expressed relative to a definite base. On the whole, an effort has been made to preserve the data in as simple a form as possible in order that they may be adaptable to other uses than those made here when and if desirable. In so far as possible, the practice of studying the factors as they are, rather than as they should be if conditions were ideal, has been followed. It is the belief of the writer that the general pattern of family life is made up in a large part by many erratic factors. Deaths and disruption of family bonds from various causes are as much to be expected

in a family as marriage, births, and continuation. All these are simply compensating phases or movements in the same thing, that is the family life cycle. It is the writer's viewpoint that the "normal" is the phenomenon which appears as the resultant of the interaction of two or more conditioning forces or determinants rather than a predetermined subjective ideal which seldom exists in concrete form. The average size of a family may be 4.8 persons, but every one is aware that such a family is a fiction except for statistical purposes and, therefore, cannot be considered as "normal." For reasons like this, an attempt has been made to avoid the use of evasive esoteric terminology as far as possible.

The main body of the text is incorporated under the following divisions: (1) the socio-economic organization of farm households; (2) the formation of the farm family; (3) the life cycle of the farm family; (4) the contributions of the farm family to its members. The order of sequence of the general topics has been determined according to what is conceived to be a gradual evolution of the family pattern.

6. Applications and Import of the Study.

What is here called the north central winter wheat section of Oklahoma is in reality the southeastern portion of the hard winter wheat region of the United States. The southern border of the region extends roughly from the point at which the Arkansas River flows into Oklahoma from Kansas in a southwesterly direction to the Cimarron River and through the Texas Panhandle to the vicinity of Roswell, New Mexico. Northward the hard winter wheat region extends along a line passing near Wichita, Kansas on the east and along the foothills of the Rocky Mountains on the west to Cheyenne, Wyoming. This region is from three hundred to four hundred miles in width from east to west and from four hundred to five hundred

miles in length from north to south. The entire winter wheat area of Oklahoma contains only about one-fourth of the total crop land of the State according to the census of 1930. From a geographical standpoint it is apparent that the farms covered by this survey may resemble those of western and southern Kansas, northwestern Texas, and eastern Colorado as much as, or even more than, those in the larger portion of Oklahoma where climatic factors and agricultural organizations are vastly different from those of the winter wheat region. However, wheat is the second most important crop in Oklahoma, being next only to cotton.

As a general rule, the wheat farms grow larger in area and are farmed increasingly by power machinery as the distances increase westward and northward from the initial point of the survey. As a result, the farm population becomes less dense and the dwellings farther apart. Another demographic variation is that the ratio of males to females in the unmarried adult farm population increases enormously in passing from the southern and eastern to the western and northern parts of the hard winter wheat area. A similar tendency applies to Oklahoma generally. These facts are partial justifications, to say the least, for the contention that this study is typical of farming conditions in a larger area outside than within Oklahoma.

In so far as there may be characteristics of the family which are constant in time and space, the data of this study have a degree of universality in their application. For example, husbands are usually older than their wives, the potential fertility of the family is dependent, among other things, upon the age of the wife at marriage; the husband is usually considered the head of the family both in matters of finance and family government. All these characteristics of family life may be expected to

exist without significant variation throughout Euro-American culture. However, the amount of capital and land required for an economic unit, the amount of labor required to produce a given type of crop, the presence or absence of alternative uses for labor, the practicability of a diversified agriculture are believed to be highly important factors affecting family organization internally.

Because of the variable factors mentioned, the conclusions and findings of this study will point northward from, rather than southward into, the larger part of the farm population of Oklahoma for whom the conditions of cotton production are far more important than those of wheat growing as determinants of standards of living and family organization.

On the whole, this study is intended to form a unit in a long time program of rural social research at the Oklahoma Agricultural Experiment Station. In this program, the plan is to conduct a series of investigations in different areas representing the different types of agriculture which are prominent in the State. The idea is that each of the several studies made will be typical of the farming area in which it is conducted rather than of the State as a whole. It is believed that in this way each sample will comprise an intensive study of its area, and that the several studies taken together will be a better basis for generalization than would a broadcast sample purporting to be representative of the State as a whole at a given time. This will have several advantages. First, the units will be more manageable. Second, resources for research being limited, a small base can be studied with sufficient thoroughness to insure dependability, whereas a survey of a larger area would be only superficial at best. Third, it is easier to recognize and

to allow for the influence of limiting factors in a small area than for an entire state of the size of Oklahoma. Fourth, in state-wide samples there are numerous contrasts within a given type of agriculture. For example, the Panhandle counties of Oklahoma are in the winter wheat area, but the agricultural organization there presents a very different framework, sociologically speaking, from that of the north central area. For all these reasons, it is obvious that the program of research as sketched is more practicable and sound than one projected on a state-wide basis. This will in no wise preclude comparisons with the present study, but rather will make it possible to develop a sociological analysis of farm life in the state which is actually comparable with its agricultural organization, taking area for area.

Another application of the study is that it will serve as a practical aid in the development of an agricultural program for the State. If it may be granted that a continuous governmental policy for agriculture is likely for a long time yet to come, it is imperative that in the future an increasing consideration be given the sociological aspects of farm life. An agricultural policy which militates against the security of the farm family, which disrupts the socio-economic pattern of rural life undoubtedly would be detrimental to society at large. It is, therefore, extremely important that any ameliorative measures which may be proposed should square with the existing forms of social life and organization in the areas to which they may be applied. Otherwise, they may be definitely harmful. The present study does not propose to be either a basis of, or propaganda for, agricultural reform, but rather to provide fundamental knowledge of the pattern of farm family life and the modes of living which characterize the north central winter wheat area.

As will be shown in Chapter II of this study, scientifically significant socio-economic studies of the family have been carried on extensively since the middle of the last century. Most authorities agree that LePlay was the one person who, more than anyone else, gave impetus to scientific inquiry into the family. His investigations were case studies, or typological studies, devoted to intensive analyses of the budgetary behavior of the families which he observed through relatively long periods of residence either in the households or near to them. In these studies, LePlay was careful to identify and explain all types of expenditures for directly consumable goods, but he did not stop at that. He studied the institutional patterns of the family and classed them under three main types, the patriarchal, the unstable, and the famille-souche, or stem-family. Then, using the foundation he had laid, his disciples, known as "The LePlay School," enlarged his work and developed the famous "nomenclatures" consisting of some twenty-five general heads which are regarded as the structural and functional framework of the family. The importance of these contributions can be scarcely evaluated properly. It is enough to say for the present that in present-day studies on the family LePlay's work remains one of the principal guiding influences after which the patterns of later thinking are being fashioned with increasing exactness.

Next to LePlay, the most important quantitative approaches to the study of the family are fashioned after the work of Ernst Engel. The Engelian method is statistical rather than typological in character. The chief contribution of Engel's studies is that they demonstrated the value of mass data methods of studying the family. It is significant that while Engel's Law of Expenditures has been erroneously interpreted in the United States, largely due to the errors of Carroll D. Wright and

R. T. Ely, these errors have been worth while as amplifications of the original Engelian Law. While Engel interested himself in the importance of food in the family budget as an indication of socio-economic status, Wright's erroneous version of the law has placed such items in the family budget as clothing, housing, and advancement. The Wright principles may be extended even further so as to apply to such expenditures as those for health maintenance, investment, automobiles, and many small personal expenditures if adequate precautions are exercised to take care of fortuitous and unpredictable factors. By far the greater part of all North American studies of family budgets, especially those having to do with farm families, have been fashioned after Wright's rendition of the Engelian Law.

The third type of family studies which have emerged is the historical. For the most part, those who have followed the historical approach have concerned themselves with forms of marriage, the influences of cultural change upon the family, and factors associated with family disintegration. They have relied in the main upon documentary data such as may be procured from court records, official censuses, compendia of statutory enactments, ecclesiastical records, family histories, anthropological and ethnological accounts, and other similar data. Seldom do such studies require actual contact, either direct or indirect, with the particular families being studied as is the case with both the typological and the survey or statistical methods. This is not to depreciate the value of the historical method. However, from the point of view of the statistical study, the greatest value of the historical studies heretofore published has been that they have indicated significant fundamental bases of family life which exhibit a degree of constancy in time and in space, the factors

which have converged toward these underlying processes and are exerting pressure upon them, and the effects of change upon the structural and functional relationships existing within the corporate framework of the family.

Needless to say, all three of these methods of study are capable of indefinite combinations, modifications, and special applications. They may be projected from the vantage point of economics, sociology, psychology, social psychology, cultural anthropology, history, or any of a large number of other disciplinary approaches. However, all of them taken together comprise, in the main, the complete sphere of family research.

The literature which has accumulated thus far has thrown much light upon fundamental phases of family life. It has gone into much detail in dealing with the family as a basic social institution and with factors producing change in the family as well as with the effects of cultural change upon the family. This, however, needs to be supplemented by specific studies of the family in definite localities. For example, it is conceded that environmental influences affect social institutions profoundly. That is a general proposition which can be scarcely denied. However, if the question of how a particular environmental situation influences the family organization within it is asked, no answer can be given until an investigation has been made. It may be true that families generally are composed of parents and their children dwelling together. If so, an investigator will hardly expect to find types of families in which throughout the society parents and children are uniformly separated as soon as children are able to walk and made to provide for themselves as may be the case with some of the beasts. Exceptions of that kind are sometimes found but are to be regarded as deviations from the predominant

behavior pattern. What may be expected is that under stated conditions, such as are represented by a particular type of agriculture, a given type of habitat, a peculiar set of climatic conditions with corresponding peculiarities in flora and fauna, or a particular culture area where people and culture have unique features, the mode of existence or living together which has been adopted by the members of the family will exhibit its own special characteristics. Sources of livelihood, work habits, bio-social processes within the family, social participation, and functions of the family will be modified to harmonize with the conditions imposed upon it by the locale in which it resides.

The importance of this study inheres, therefore, in the fact that it focuses the general knowledge of the family which has been gained already upon the family situation in a particular environment. The study, in other words, will show how the farm family in the winter wheat area of Oklahoma has gone about the task of adopting itself to the demands placed upon it by a definite type of agricultural situation. The study does not propose to develop a new theory of the family nor does it presume to evolve a wholly new methodology for studying the family, but attempts to interpret the social meaning of the farm family as it exists under the conditions of the predominantly wheat growing type of agriculture in the southwestern plains region. The salient features of the family under these conditions will be brought out in detail as the study goes forward.

CHAPTER II

REVIEW OF SELECTED LITERATURE

The volume of existing literature relative to the socio-economic structure of the family is overwhelming. The studies which were made prior to the World War of 1914-1918 were concerned for the most part with the family in general and with the family under the conditions of urban life. Since that time, however, a change has occurred, and reports of investigations on the farm family have been appearing with increasing frequency. This shift of emphasis represents a growing interest in the farm family, improved facilities for the study of the farm family, and a growing recognition of the importance of the farm family in the national life more than a waning of curiosity and interest in the urban family pattern. Moreover, it is believed by most investigators that the last stronghold of the historic family is in the rural, more particularly, the farm population. The urban family in the highly complex, impersonal, unstable social and cultural situation of city life seems to represent a transitional stage in family structure and organization much more than a definite institutional family pattern. This, in all probability, accounts for the relatively greater emphasis upon rural than upon urban family research during recent years.

In view of the physical impossibility of reviewing all the literature which may be of pertinence in a study such as is being undertaken here, it is necessary to limit the examination to studies which are recognized as being more or less typical of this investigation and which are of such general importance as to render them applicable to almost any

study that may be made of the family. Even by that procedure, not all studies which are of significance within the above limitations can be treated separately. In the United States alone, there are upwards of 800 studies of family budgetary behavior, and of similar studies in other parts of the world there are probably more than twice that many.[1]

For purposes of this study, the survey of literature will be integrated with about six general topics: (1) the inductive method; (2) the socio-economic organization of the farm family; (3) the bio-social composition of the farm family; (4) the life cycle of the farm family; (5) social functions of the farm family; and (6) the influences of the farm family upon its members. This division of materials follows rather precisely the scope of the study both as to content and as to sequence. Since the study does not presume to comprehend the totality of farm family relationships and functions, the discussion of the literature will be subjected to a similar limitation.

1. The Inductive Method.

The time and place at which men first became interested in the scientific methodology of scientific investigation would be hard indeed to establish. However, it is established that statistics as a science is a product of the last hundred years. It is not amiss, therefore, to go back a few decades and gather up such evidences of the "science of method" as may have a fairly direct bearing on the problems to be investigated in this study. For practical applications, there is a need to distinguish

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[1] Faith M. Williams and Carle C. Zimmerman (Studies of Family Living in the United States and Other Countries. Washington: Government Printing Office, United States Department of Agriculture Misc. Pub. no. 223, 1935) have analyzed 458 such studies which were produced in Continental United States and 1029 from other parts of the world. Since these writers completed their project, a large number of new studies have been completed.

between methodology as such and the "science of method." Perhaps it may be insisted in some quarters that method is its own science. That can scarcely be maintained because all reliable methods of science must be arrived at through experience, observation, classification, generalization and, no doubt, frequent and careful repetitions of this same process for the sake of refinement and verification. That is to say scientific method is developed inductively. Science, in turn, is understood almost universally to consist of a body of knowledge so related, organized and differentiated as to show cause-effect relationships which may lead to the establishment of general principles or laws.

Science is of necessity somewhat specialized. Conceptually it contains elements which are general, but in application it must have reference to a body of knowledge which is particular. Obviously the data of astronomy cannot be utilized, except by analogy, to demonstrate the laws of psychology, but the essentials of the methods of study used by the astronomer to discover laws of his universe can be applied by the psychologist to discover laws of his own universe. It was this truth which led Pearson to say, "The unity of science consists alone in its method, not in its material," (author's italics).[2] That point of view constitutes at least one claim of this study to a scientific undertaking. That is to say, the methods used have the characteristics of the scientific method at all times. It is a point of view developed by Pearson, who as early as the decade beginning in 1880 was one of the chief moving spirits in the development of a methodology common to and applicable to all science, and it has been through his foresight largely that the methodological

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[2]Karl Pearson, The Grammar of Science (3d Ed.). New York: The Macmillan Co., 1911, Pt. I, p. 12.

conception of science has come to have a greater universality as well as a greater degree of unity in recent years than at any time previously.

Another viewpoint developed by Pearson which serves as a dependable guide for social research is that science knows nothing of first causes, but only may discover where ignorance begins.[3] This very properly coincides with Sumner's contention that all origins are lost in mystery.[4] The argument Pearson advances is that first causes cannot be inferred by science because at the point at which they seem to be asserted they mark either a permanent or a temporary limit to knowledge. They are either inferences in the beyond of sense impressions, or they are implications of ignorance within the sphere of knowledge. Sumner's point is that origins, which of course must be attached directly to first causes, are veiled in such a fog of uncertainty, doubt, indirect association, and confusion that a search for them is predestined to futility. While these ideas are not completely original with either of these two men, they deserve much credit for having focused them upon the thought of the latter nineteenth century and of the twentieth century thus far.

The significance of the foregoing reasoning is that science does not work miracles. The view of Pearson is that, "Scientifically cause is used to denote an antecedent stage in a routine of perceptions," and is not to be confused with an impelling force. To paraphrase his words, seen in the past, science is a description, but in the future it is a belief not in inevitability but in probability based on evidences, experi-

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[3] Ibid., pp. 127-128.

[4] William Graham Sumner, Folkways. Boston: Ginn and Co., 1906, pp. 7-8. While this postulate seems to have the tone of a Socratic deduction in Sumner's writing, objective quantitative scientific method has not been able to demonstrate any fundamental error in it.

ence, or data derived from the past but lacking in absolute certainty. This routine of perceptions is a relative and not an absolute, and the universe is thought of as a complex of contingent rather than of casually linked phenomena. All investigations should provide a conceptual routine, that is a functional expression of average experience, and a measure of deviations from the routine which is to be a guide to the degree of variation in experience. This being accomplished, prediction beyond experience is possible, but prediction is not justified by any actual experience. It is based upon the historical fact that under stated conditions, certain averages, tendencies, and regularities have prevailed within accountable degrees of variation, or deviation. As long as those same conditions govern a universe, science can project the sense perceptions into the beyond of experience and predict uniformities. Prediction is based, therefore, upon probability which as Jeffreys says is an expression of a relation between a proposition and a set of data. There are, according to this author, two extreme limits of probability. If the data imply that the proposition is true, the probability amounts to a certainty or unity, but if they imply that it is false, the probability becomes impossibility or zero.[5] Between these two limits any degree of probability may arise.

At this juncture it is desirable to distinguish between description and inference. Description consists in the cataloging and classification of sensations or observations already experienced while inference is the use of previously experienced sensations or observations to derive information about sensations not yet experienced, as Jeffreys explains.[6] Now by putting the reasoning together, it should be easy to see the relation between probability and inference in scientific investigation. Inference is

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[5]Harold Jeffreys, Scientific Inference. New York: The Macmillan Co., 1951, pp. 9-13.

[6]Ibid., p. 1.

the new truth that may be derived from a given set of data, observations, or sensations already experienced. Probability is a measure of the degree of certainty, frequency, or assurance within which the new truth can be regarded as having been established. Inference indicates what may be concluded. Probability indicates the degree of its variation from a certainty of unity. In other words, probability is the balance between what is known and what is unknown about phenomena. The importance of this principle in research cannot be overstressed.

What constitutes the foundation of knowledge about things? According to Ritchie, it is the relations of similarity and dissimilarity, which relations imply essentially an act of comparison, and that in turn can be nothing but an act of a perceiving mind.[7] The first task of the investigator is to classify what exists; universals must be distinguished from particulars. The implication here is that science is not interested in the unique, but in the general. The general aim of classification is not mere recognition of phenomena but the discovery of general laws which may exist in relation to them. The second task is to manipulate the data or observations which exist so as to present them in a form suitable to make generalizations possible. The third task is the process of generalization itself. These are certainly some of the indispensable steps in inductive logic. So much for the essence of Ritchie's contribution to the theory of methodology.

Many definitions of induction exist. Mill defines it as the operation of discovering and proving general propositions.[8] Jevons says,

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[7]A. D. Ritchie, Scientific Method. New York: Harcourt Brace and Co., Inc., 1923, p. 5, pp. 21 et seq. See also A. Wolf, Essentials of Scientific Method (2nd. Ed.). New York: The Macmillan Co., 1937, Chs. I-II.

[8]John Stuart Mill, A System of Logic. London: John W. Parker, 1843, Vol. 1, p. 347.

"Deduction consists of passing from more general to less general truths; induction is the contrary process from less to more general truths."[9] Westaway prefers Fowler's definition of induction as "the legitimate inference of the general from the particular, or of the more general from the less general," and criticises Mill's definition on the ground that it excludes perfect inductions, or inductions of simple enumeration.[10] Whatever may be the apparent differences between and limitations of these definitions, all of them may be reduced to a common residue. Induction is the process of proceeding from relatively individualized known truths toward the establishment of generalized truths, principles, or laws.

The counterpart of induction and its inseparable auxiliary is deduction. Properly conceived, induction and deduction are the compensating phases of the same generalized process. The premises of deduction are always arrived at inductively, whether the investigator is aware of it or not. Likewise the inferences derived from induction are precipitated deductively. It is enough to say that deduction is the method of proceeding from general truths or principles toward the establishment of particular truths. The contribution of deduction to scientific investigation is at its zenith when as Smith says it comes into play to see what consequences would follow if an induction were valid.[11]

In the opinion of Jevons there are three steps in the process of induction. These are:

1. The framing of an hypothesis,

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[9] W. Stanley Jevons, The Principles of Science: A Treatise on Logic and Scientific Method. London: Macmillan and Co., Ltd., 1905, p. 11.

[10] F. W. Westaway, Scientific Method. London: Blackie and Son., Ltd., 3d Ed., 1924, pp. 178-183.

[11] T. Lynn Smith, The Sociology of Rural Life. New York: Harpers, 1940, pp. 6-7.

2. Deducing the probability of various series of possible consequences,

3. Comparing the consequences with the particular facts and observing the probability that such facts would happen under the hypothesis.[12] He considers that an induction is perfect "when all the objects or events which can possibly come under the class treated have been examined," and induction is imperfect and is affected by more or less uncertainty in all other cases. Also, "when once we allow our conclusion to apply, at all events, apparently beyond the data on which it was founded," we pass from perfect to imperfect induction.[13] Again, Jevons points out that in induction as in deduction the conclusion never passes beyond the premises, and reasoning adds no more to the implicit contents of knowledge than the arrangement of specimens in a museum adds to the number of those specimens.[14]

Mill's viewpoint is that induction is mostly a summing up into brief form a multitude of particulars, and that it actually gives us no information. Jevons maintains that Mills considers the matter too lightly because the saving of mental labor is one of the greatest aids in the acquisition of knowledge. While Jevons sought to prove Mill's logic hurtful because it represented knowledge as assuming approximately a complete character, the issues he raises are more apparent than real, and his own attack is much more of a defense than an effective offensive. The contributions of both men to clear thinking on the philosophy of modern science are great in spite of their academic differences. As a

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[12] W. Stanley Jevons, op. cit., pp. 266-267. Many logicians include a fourth step in this process, that of classification and examination of evidences. This fourth step, however, is largely derivative from the three Jevons has stated.

[13] Op. cit., pp. 146-151.

[14] Op. cit., pp. 218-219.

matter of course, it would be possible to find that there is no hard and fast conception of inductive logic. Minds differ among scientists equally as much as among lawyers or theologians. The important point in the whole matter is to formulate a scientific point of view, rather than a scientific bias, in the beginning of any research undertaking.

Practically all investigators agree that the three steps in induction which are set up by Jevons are essential. However, more practical thought on the matter has led to a modification of these steps. For example, Chapin, as well as practically all contemporary writers at present, includes four steps.[15] They are:

1. Formulation of the working hypothesis,

2. Collection and recording of facts of observation,

3. Classification of recorded facts observed into series and sequences which throw light on the natural relationships among these facts,

4. Discovery of some short formula or law to explain the sequence of facts and to express their relationships.

Chapin's formulation of the steps to be taken in induction, while not necessarily original or peculiar with him, constitute perhaps the essence of field research method as it is now carried on. It certainly focalizes the general conceptions of inductive logic into a convenient form in which they may be applied to specific research problems.

The close proximity of induction to statistical procedure is apparent when it is considered that statistics has been evolved primarily as an aid to inductive research. Parenthetically, it may be said that while all

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[15] F. Stuart Chapin, Field Work and Social Research. New York: The Century Co., 1920, pp. 6-7.

statistical research is inductive in character, not all induction is statistical. Statistical procedure is, therefore, a specialized form of induction. This identification of statistical with inductive inquiry is made quite clear by Chaddock when he describes the statistical method as involving "(1) exact measurements or quantitative estimates, (2) careful recording of the results in classified form, (3) analytical scrutiny and treatment for purposes of comparison, and (4) judgment of the evidence and generalization from it where possible."[16] Odum and Jocher very appropriately say that "collecting and assembling data are but preliminary steps in research which is complete only with the tabulation, classification, comparison, interpretation, and presentation of the material. Statistics is a technique by which these final steps are facilitated."[17] In other words, the preliminary steps of collecting and counting are necessary steps in statistical procedure but in themselves amount to little more than exercises in the use of numbers. Statistics is a tool by the use of which the investigator is enabled to get to the beyond of his sense perceptions and reactions, or to arrive at inferences in inductive research. Thus statistical technique is a medium through which the principles of inductive logic are transformed from latent to dynamic energies for the study of social phenomena.

2. Socio-Economic Organization of the Farm Family.

As has been observed already, research dealing with the farm family in the United States belongs mostly to the period covered by the last twenty-five years. Prior to that time studies of working men's families

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[16]Robert Emmett Chaddock, Principles and Methods of Statistics. Boston: Houghton Mifflin Co., 1925, p. 38.

[17]Howard W. Odum and Katherine Jocher, An Introduction to Social Research. New York: Henry Holt and Co., 1929, p. 265.

in cities occupied the central portion of the stage both in Europe and in America. Interest in the general problem of family budgets is said to have had its origin in England during the last quarter of the eighteenth century. Arthur Young is credited with being one of the earliest students of living conditions. He drew up a budget based on the expenditures of four families, and was intent upon showing that the wages of the agricultural laborer actually permitted a surplus over subsistence needs. According to Douglas, the period from 1767 to 1795 marked the beginning of family budget studies in England. These early studies were represented by Arthur Young's Farmer's Letters, David Davies' The Case of Labourers in Husbandry, and Sir Frederick Eden's collection of over one hundred estimated budgets on diets in various counties of England revolved around the Poor Laws and the Corn Laws. The question of wages involved the best thought in England for fully a half century during the period following the onset of the Industrial Revolution.[18] Two of the leading spirits in these controversies were Thomas Robert Malthus and David Ricardo whose pessimistic viewpoints led them to formulate the notorious Iron Law of Wages in which they sought to establish their contention that the laborer barely gets a sufficient wage for sustenance and replacement.

Important as the English Classical Economists and theologians were, their studies were not empirical and often lacked simple objectivity. Perhaps the most significant pioneer in studies of family budgets was Frederic Le Play. Even today his Les Ouvriers Europeens remains in the

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[18] See the article by Dorothy W. Douglas on "Family Budgets," Encyclopedia of the Social Sciences. New York: Macmillan Co., 1931, Vol. VI, pp. 75-78.

forefront.[19]

At the same time at which Le Play's studies were under way, students were busy in other continental countries. In 1855, Edouard Ducpétiaux published his report, Budgets Economiques des Classes Ouvrières. In this report an effort was made to render the results comparable to other studies by considering the typical family composed of a man, wife, two wage earning children aged twelve and sixteen, and two dependent children aged six and two as the unit. Le Play wished to discover what were the most important factors in its disintegration. It was left for Ernst Engel, the German statistician who was a disciple of Quetelet and Le Play, to evolve a statistical basis which would render comparable budgetary studies made at different times and places. In 1895, the International Institute of Statistics published Engel's Die Lebenkosten Belgischer Arbeiterfamilien Frecher und Jetzt--Ermittelt aus Familienhaushaltrechnungen. This publication contains an exact reprint of his study made in Saxony in 1857 and the original statement of his famous law. These studies, directly and indirectly, have constituted the main points of departure in a very large share of the American studies of farm family budgetary behavior since 1920 in particular.

The study now under way draws more heavily upon the Engelian than

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[19] For a critical exposition of Le Play's work, see Carle C. Zimmerman and Merle E. Frampton, Family and Society. New York: D. Van Nostrand Co., 1935, pp. 73-150; Carle C. Zimmerman, Consumption and Standards of Living. New York: D. Van Nostrand Co., 1936, pp. 22-23 et passim.; Pitirim Sorokin, Contemporary Sociological Theories. New York: Harpers, 1928, pp. 66-73; Faith M. Williams and Carle C. Zimmerman, op. cit., pp. 18-21; Edmond Demolins, "Comment on Analyse et Comment on Classe les Types Sociaux," Brochure de Propagande. Soc. Internat. de Science Sociale, p. 76. The last named reference is more descriptive than expository and more promotional than critical in character. See also F. Le Play, Les Ouvriers Europeens, 6 vols. (2d Ed.). Tours: Alfred Mame et Fils, 1877-1879, especially Tome 1er, livres 1-3, in which Le Play discusses the origin, description, and history of his method. Ducpétiaux published his study in Brussels in 1855.

upon the Le Play method especially with reference to techniques of gathering data and analysis. In only an indirect way does it seek to reexamine some of the Le Play concepts. It does emphasize, however, the relations of work, place, and people to the socio-economic organization of the farm family, and it does seek to utilize a standardized unit of consumption as developed by W. I. King and Edgar Sydenstricker as the "ammain" which probably owed its origin to the work of Quetelet. Otherwise the study follows the Wright-Ely version of the Engelian hypothesis quite closely.

It seems rather certain that Carroll D. Wright was the first to induct the Engelian Law into budgetary studies in the United States. That was in 1874-75 while he was head of the Massachusetts Bureau of Statistics of Labor. However, Wright did not introduce the law in its original form. As the Engelian Law has been handed down perennially in practically all textbooks in economics which went at all into the theory of consumption, it was resolved substantially into the following four familiar statements:

As the income of a family rises,

1. The smaller is the proportion spent for food,

2. The proportion spent for clothing remains approximately the same,

3. The proportion spent for rent, fuel, and light is invariably the same,

4. The proportion spent for sundries increases.

The Wright version has been rendered in slightly different language almost every time it has been printed, but it has faithfully retained all of its essential characteristics. While it is highly inaccurate, as has been shown by Zimmerman, to represent Wright's statement as Engel's Law or as a correct interpretation of that law, it is wholly defensible to test the

hypotheses he has worked out on the basis of their own merit.[20] Zimmerman points out that Engel was concerned primarily with the importance of food as an index of the material standard of living. In fact, Engel thought the importance of food in the living budget was the best single index of economic progress, and particularly when it measured a change from foods of vegetable to those of animal origin. As he develops the hypothesis, it is resolved into a natural law which is that "the poorer the individual, a family, or a people, the greater must be the percentage of the income necessary for the maintenance of physical sustenance, and of this a greater proportion must be allowed for food."[21]

From this statement it may be seen readily that, if food, shelter and clothing are to be regarded as necessary for physical sustenance, and since Engel was explicit only in the case of food, the original version challenged Wright to want to find to what extents it would lead if followed to its own implied conclusion. Having marked out a "law" of clothing and a "law" of housing, it remained to find out what happened in the case of sundries only by the process of elimination. While Zimmerman states in several places that Wright's version of Engel's Law is erroneous, he does not go far enough and point out that in committing the error Wright, perhaps unwittingly, made as significant a contribution toward family bud-

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[20]For a thorough discussion of the differences between the original law of Engel and Wright's statement of it see Carle C. Zimmerman, "Ernst Engel's Law of Expenditures for Food," Quart. Jour. Econ., Vol. 47, (1) 1932, pp. 78-101; Williams and Zimmerman, op. cit., pp. 18-19, 452; Carle C. Zimmerman, op. cit., pp. 39-51; Carle C. Zimmerman and Merle E. Frampton, op. cit., pp. 52-57. See also Alfred Marshall, Principles of Economics (8th Ed.). London: Macmillan and Co., Ltd., 1920, p. 115; Richard T. Ely, Outlines of Economics (4th Ed.). New York: The Macmillan Co., 1923, p. 138; Elizabeth Ellis Hoyt, The Consumption of Wealth. New York: The Macmillan Co., 1928, pp. 258-259; and Edwin T. Dummeler and Richard B. Heflebower, Economics with Applications to Agriculture. New York: McGraw-Hill Book Co., 1944, pp. 179-180, as examples of current statements of Engel's Law in well known textbooks.

[21]See Zimmerman and Frampton, Family and Society, p. 53.

getary analysis as he would have made by giving a correct literal interpretation of the law. That his was an accidental discovery, like the discovery of America, should not invalidate it entirely. The importance of Wright's study is further attested by the fact that his hypotheses have weathered economic criticism fairly well for two-thirds of a century. This is not to say, however, that Wright is to be condoned for his carelessness and his failure to make it clear that he was advancing his own rather than Engel's hypotheses. Further reference will be made to this point in Section 8 of Chapter IV in this study.

In all studies of family budgets it is necessary to have in mind some conception of what the whole pattern of living means. That is to say, it is necessary to have some idea, or criterion, against which the actual content of living may be reflected for measurement. In other words, what is meant by standard of living? On this point there is much divergence of opinion. Ely characterizes standard of living as the number and character of wants a man deems more necessary than marriage and a family.[22] Davenport thinks of it as "a level of consumption so fixed in habit that any falling short is felt as a privation."[23] Faith Williams says, "The term 'standard of living' is used to mean an ideal or a norm of consumption."[24] Marshall uses the term "standard of life" to mean "the standard of activities adjusted to wants. Thus a rise in the standard of life implies an increase of intelligence and energy and self-respect; leading to more care and judgment in expenditure, and to an avoidance of food and drink that gratify the appetite but afford no strength, and of ways of

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[22]Richard T. Ely, op. cit., p. 138.

[23]Henry Joseph Davenport, Economics of Enterprise. New York: Macmillan Co., 1913, p. 3.

[24]Williams and Zimmerman, op. cit., p. 4.

living which are unwholesome physically and morally."[25] Another definition of standard of living is that it comprehends all those things which one insists upon having.[26]

Not all definitions of standard of living are as materialistic as those just mentioned. E. L. Kirkpatrick defines the term as including "the economic goods contributing to the maintenance of health, transportation, education, recreation, and social relationships of the family, as well as those goods satisfying the more material needs--food, housing, fuel, and clothing."[27] Kirkpatrick then quotes Fairchild's definition, "the amount of necessaries, comforts and luxuries enjoyed by the typical family," as being more or less in line with the "pressure" concept of standard of living. Kirkpatrick tries to steer away from that notion, preferring a broader and more liberal view of the problem. His own definition apparently fails to state precisely and concisely what he has in mind, for he defines family living as "the variety, quantity and quality of the goods used to meet the physical and psychic, both personal and social, needs of the different members comprising the family (or group of families on an average)."[28]

Comish says, "An efficient Standard of Life means sufficient nourishment and comfort to make efficient producers and appreciative consumers."[29] Obviously the criteria of this definition are too vague and indeterminate for it to have any great value in either scientific theory or in analysis. Who knows, for example, by what token a consumer mani-

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[25]Alfred Marshall, op. cit., p. 687.

[26]Hazel Kyrk, Economic Problems of the Family. New York: Harpers, 1933, p. 375.

[27]Ellis Lore Kirkpatrick, The Farmer's Standard of Living. New York: The Century Co., 1929, pp. 11-12.

[28]Ibid., p. 15.

[29]Newell H. Comish, The Standard of Living. New York: The Macmillan Co., 1923, p. 71.

fests his appreciation? This is an effort to translate a materialistic conception into broader and more meaningful terms than are usually implied in economic definitions of standard of living, but it fails to accomplish its purpose.

Perhaps the most successful attempts by economists to give a sociological connotation to standard of living have been made by Fetter and Chapin. Fetter says the standard of life "expresses the complex thought of that measure of necessities, comforts and luxuries considered by an individual to be indispensable for himself and his children; that measure he will make sacrifices to secure."[30] Chapin has a concept which is broader still. He says,

> A normal standard of living is one which permits each individual of a social unit to exist as a healthy human being, morally, mentally, and physically.
>
> A standard of living is a measurement of life expressed in a daily routine which is determined by income and conditions under which it is earned, economic and social environment and capacity for distributing income.[31]

The importance of Chapin's concept when contrasted with those stated before it inheres (1) in the fact that it is individual in nature but bears a relation to a social group; (2) in its insistence that the standard of living relate to a habitual pattern of living; (3) in its recognition of the influence of the social milieu in determining what standard will be sought; and (4) its insistence upon the capacity of people to produce income as well as upon their being able to distribute it with some sense of proportion in the satisfaction of their various wants.

Brinkmann says the concept of standard of living has yet to be

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[30]Frank A. Fetter, Economic Principles. New York: The Century Co., 1915, p. 417.

[31]Robert Coit Chapin, The Standard of Living of Workingmen's Families in New York City. New York: Russell Sage Foundation, 1909, pp. 255-256.

worked into a definitive form.[32] Brinkmann is undoubtedly right in his contention. For the most part economists have defined the term in a way that places such narrow restrictions upon it that it is shorn of a greater part of its meaning. Sociologists and welfare economists have tried to define it so as to convey a wider meaning than has been implied by economic theorists, and in so doing have injected into it a high degree of intangibility, ambiguity, subjectivity and vagueness. Somewhere between the extremes of Davenport's truncated definition and Kirkpatrick's highly volatile statement a defensible definition should be found. From all of these points of view it should be possible to precipitate a tangible concept. Such a concept must include not simply a statement relative to the material goods necessary for life, but must also conceive the needs of a man in terms of the socio-economic milieu in which he must live. Conceding the point made by Williams that it represents an ideal or a norm of consumption is not enough. Nor is it sufficient to say, as Davenport implies, that the lower limit of the standard of living is the point at which privation begins to be felt because privation, in the sense in which he employs it, has reference to the individual wholly apart from a group situation.

Sorokin and Zimmerman have shown that in substance the standard of living of an individual or a family is determined in a very large measure by four factors: (1) income, (2) occupation, (3) the environment, both physical and social, and (4) tastes and judgments of the people themselves.[33] If this be true, a definition of standard of living should be

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[32] See article by Carl Brinkmann, "Standards of Living," Encyclopedia of the Social Sciences, Vol. XIV, pp. 322-324, for a concise review of economic concepts of standard of living.

[33] Pitirim Sorokin and Carle C. Zimmerman, Principles of Rural-Urban Sociology. New York: Henry Holt and Co., 1929, pp. 74 ff.

couched in terms that will give it a degree of reference to those influences. That is to say, standard of living means at the very least a level of living which people feel they must maintain in order to preserve health and bodily vigor, to provide for the contingencies of old age, and to maintain the cultural advantages necessary to insure status in the group or groups of which they are a part. In other words, it would be acceptable to modify Davenport's suggestion so as to have it read: by standard of living is meant a consumption level so fixed by habit that any falling short of it is felt as a privation and a loss of status in the group to which one belongs.

The principal contention is that an individual standard of living is not a unique absolute phenomenon standing entirely aloof from the socially accepted standard for people of given economic, social, occupational or functional status. In terms of biological need alone, or in terms of personal tastes and desires, or in terms of economic status by itself, standard of living cannot be defined. The influences of association, group suggestion, cultural advancement, fashions, or the moral code are all factors which decree a given standard of living for people in various social strata. The question of privation alone does not set the definitive limits. Quite often people suffer much privation in an economic sense in order to spare themselves much greater privation in the form of loss of social status. Finally it is because of the exceedingly wide range of variations in behavior which it must cover, the high degree of variability in the circumstances to which it must apply that the concept of standard of living cannot be reduced to a precise formula. In all probability this is as much an advantage as a handicap in social research.

Studies of standards of living in the United States belong mostly to the Post Civil War period of the country's history. H. C. Carey (1793-1829) and John Rae (1786-1873), a Scotchman by birth who spent a great part of his intellectual life in America, gave some thought to consumption problems prior to the Civil War and no doubt laid a foundation for studies which came after them. Following the Civil War, Francis A. Walker (1840-1897) and Henry George (1839-1897) became conspicuous economists who were interested in welfare. Walker was an opponent of the wages-fund doctrine and held that wages, consequently the condition of laborers, were determined by the relation of population to capital, which is to suggest that if laborers become too numerous the condition of the laboring classes will become precarious, unless the situation can be eased by lowering the cost of food. Henry George was in some respects what may be called a Neo-Ricardian economist. He was not as much interested in consumption as in the distribution of wealth. The condition of the working classes, he thought, was dependent, not upon the produce of labor, but upon what was left after rent was deducted from the total product. He states specifically that "wages depend upon the margin of production, or upon the produce which labor can obtain at the highest point of natural productiveness open to it without any payment of rent."[34] As a corollary to this law of wages, he maintained that where natural opportunities are all monopolized, wages may be forced by the competition among laborers to the minimum at which laborers will consent to reproduce. Thus it can be seen that George would have restricted the ownership of natural opportunities rather rigidly in order to prevent its

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[34] Henry George, The Science of Political Economy. London: The Henry George Foundation of Great Britain, 1932, p. 213. It is generally conceded that Henry George was a stimulating thinker, but that his economic analysis often goes wide of the mark because of the lack of tenability of his premises.

forcing the laborer to a minimum subsistence wage.

The work of systematizing early thinking into actual investigation in America fell primarily to Edward Young who was Chief of the Bureau of Statistics of the United States Treasury under President Grant, Carroll D. Wright who became chief of the Massachusetts Bureau of Statistics of Labor in 1873, and W. O. Atwater who was the first director of the Office of Experiment Stations of the Department of Agriculture after the passage of the Hatch Act in 1887. As has been noted already, Wright was largely responsible for introducing Ernst Engel's Law of Consumption into this country. He endeavored to consider all phases of the family budget, and in so doing actually developed a different approach from that which he started out to demonstrate. Atwater's contribution to budgetary studies was highly significant with respect to food in particular, and along with European investigators he laid the foundation for the development of the Adult Equivalent Scale.[35] It seems appropriate to say that Atwater represents the nexus between what Zimmerman calls the creative period and the period of maturity in American studies of standards of living.

As was mentioned at the outset, studies of the living of farm families are both less numerous and usually are based on smaller samples than is the case with wage earning and low salaried groups. However, one of the few studies of a large sample of farm families was made in Michigan by the Michigan Bureau of Labor and Industrial Statistics in 1894. This was a study of 5600 farm laborers of whom 2,488 lived in family groups.[36] This study did not attempt to establish a money value for perquisites

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[35]See Zimmerman, Consumption and Standards of Living, pp. 460-471; Williams and Zimmerman, op. cit., pp. 8-13.

[36]Quoted from an abstract by Williams and Zimmerman, op. cit., p. 69, original not seen.

furnished by the farm. Williams and Zimmerman state that the first study which attempted to evaluate the whole range of family living for farm families was made by George F. Warren in Livingston County, New York, in 1909. It will be admitted that home grown produce may affect the living budgets of farm families profoundly, but for practically a half century, now, many debates have been carried on regarding this point, and thus far no settlement has been reached.

From the point of view of economic theory it is argued that garden produce, milk, fruits, poultry and other food products grown and used at home represent at most a saving in the family budget. It is also contended that these products do not differentiate families in areas where climate, soil factors, and custom are conducive to their being had easily. In the third place, it is said that there is no alternative use to which a larger part of either the labor used in growing it or the produce itself could be put; that it represents at most a very low opportunity cost. On the other hand, those who insist on its inclusion believe that some monetary value should be established for home grown produce. Whether this imputed value should be based on the retail price people would have to pay for the same products if they were bought at a store, what the farmer could sell it for, if he took it to town, or what it would be worth at the farm if the town dweller went to the farm and bought it is a source of no little confusion.

Furthermore, if value is imputed to home grown food and fuel, where is the line to be drawn? The farmer enjoys freely the advantage of outdoor space, a relatively simple social environment, freedom from noise and interference and a great many other things which in the city would involve a tremendous expense burden. Should that not have an imputed

value? Likewise the city dweller enjoys proximity to people, to doctors, police protection, superior educational advantages for his children and many other things which are expensive for the farmer. How can these be evaluated? It is not simply a question of what kind of a price to put upon these advantages which are inherent in a situation, but it is also extremely difficult to know where to draw the line which separates the perquisites which are supposed to have a monetary value placed on them from those which are not. The only apparent solution to the matter seems to be to limit budgeted expenditures of living to those expenses which are susceptible of voluntary budgetary distribution, and that will confine the analysis to actual cash receipts and expenditures. If it were possible to find a universally acceptable common denominator for all these home grown products, it would be highly valuable in budgetary analysis. Since money is the only such denominator that has been agreed upon, objective studies are limited rather circumspectly to those expenditures in which money has been actually used as a medium of exchange and measurement. At least, this is one point of view.

Perhaps there has never been a study made of living budgets which did not deviate from reality in one way or another. The imputation of monetary values to all products produced and consumed at home actually may exaggerate the size of family income unduly. On the other hand, limiting the study to cash spendable income may have the apparent effect of reducing the income unduly. However, by limiting the consideration to cash receipts and disbursements it is possible to say definitely what happens to that part of the total income over which the family can exercise unquestionable voluntary control.

Studies of farm family living began to receive increased emphasis

in the United States around 1920. Except for an occasional study now and then most of the investigations having to do with the subject at all prior to that time included it only as an incidental feature. In a greater proportion of the earlier studies the samples were so small as to be capable of producing only inconclusive results. Since that time there have been relatively few studies of nation-wide scope. The tendency has been mostly to concentrate the work within states. This has been partially attributable to the administrative policies of the various State Agricultural Experiment Stations which have been responsible for the greater part of the studies of living conditions among farmers. While the samples have been comparatively small in most cases, they have been large enough to admit of statistical treatment. In the greater part surveys based on farm to farm canvasses have been used in preference to the Le Play participant-observer method, the case study, the account book, or the mailed questionnaire method.

The United States Department of Agriculture took the leadership in propagating an interest in family living studies following the Post War depression. Between 1922 and 1926 E. L. Kirkpatrick and J. T. Sanders, working both jointly and separately in Kentucky, Tennessee, and Texas as representatives of the Department of Agriculture, made a series of studies on such topics as costs of living, the relation between ability to pay and standards of living, and farm ownership and tenancy in relation to living habits of farm people. Kirkpatrick secured data from 402 farm families in Livingston County, New York, during 1920-21. His object was to devise a measure of levels of living on the farm and to determine the extent to which living is affected by the farm business, the distribution of income, education, physical environment and social contacts of the

family. He worked out a separate scale of cost consumption units for food, clothing, rent and other items using the adult male as the base.[37] His correlations indicated that the size of the farm business, the education of parents, and the value and condition of the farm house were closely related to the level of living, while farm tenancy was not a serious menace to the level of living in the homes in this diversified farming area.

At the same time plans for studies of family living on the farm were beginning to appear in greater frequency than previously in the various states under the auspices of the Agricultural Experiment Stations. The passage of the Purnell Act by Congress in 1925 made available funds for this type of study in greater quantities than had ever existed before. Then in 1926 Kirkpatrick published his cooperative study made in eleven states.[38] The findings of this study were neither revolutionary nor startling, but because of its geographic dispersion, ranging from New Hampshire to Alabama and from South Carolina to Kansas, it stimulated a widespread interest on the part of investigators, of which there were few then, in the several states. Kirkpatrick and practically all students of standards of living who followed him for ten years at least presented their findings in terms of the Wright version of Engel's Law. He did not confine his study, however, to cash receipts and expenditures. He imputed monetary values to home grown produce used at home and made a charge on house rent of ten per cent of the estimated value of farm houses per year

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[37] Ellis L. Kirkpatrick, The Standard of Life in a Typical Section of Diversified Farming. Ithaca, N. Y.: Cornell Agric. Exper. Sta. Bull. 423, 1923. A further analysis of materials collected for this same study was published by Ellis L. Kirkpatrick, Helen W. Atwater, and Ilena M. Bailey under the title, Family Living in Farm Homes; an Economic Study of 402 Farm Families in Livingston County, New York, U. S. Dept. Agric. Bull. 1214, 1924.

[38] Ellis L. Kirkpatrick, The Farmer's Standard of Living: A Socio-Economic Study of 2886 White Farm Families of Selected Localities of Eleven States, U. S. Dept. Agric. Bull. 1466. Washington: Government Printing Office, 1926.

which was placed into the family living budget.

At about the same time at which Kirkpatrick's studies were under way in Washington and later at the University of Wisconsin, Black and Zimmerman began a series of studies of farm family living in Minnesota. There were certain distinguishing features of their work, although they too were led by the Wright-Engel law for a long time. As they proceeded, they began to limit their analyses to "net spendable" income. While they treated the entire farm as a unit, they were careful to separate the family and the farm budgets in so far as it was possible to do so. They found that automobiles exercised a great deal of influence upon the farmer's spending habits, and yet it could neither be classed as a farm expense nor wholly as a family expense. Hence they singled it out. Finally, they felt that one of the important indexes of the standard of living was the sense of futurity which the family seemed to exercise. Hence they made a separate category for savings and investments. A general deduction which Black and Zimmerman drew from their studies is that wants which are physiological in character, under stated conditions of income, occupational and social status, tend to be governed in their satisfaction by a law such as Engel developed. The moment wants become psychological and subjective in character it becomes difficult to predict whether the amounts spent in their satisfaction will rise or fall in any manner directly proportionate with income.[39]

The most recent study, and by far the most extensive, which has been

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[39]See John D. Black and Carle C. Zimmerman, How Minnesota Farm Family Incomes Are Spent. St. Paul; Minn. Agric. Exper. Sta. Bull. 234; Family Living on Successful Minnesota Farms. St. Paul: Minn. Agric. Exper. Sta. Bull. 240; Carle C. Zimmerman and John D. Black, Factors Affecting Expenditures of Farm Family Incomes in Minnesota. St. Paul: Minn. Agric. Exper. Sta. Bull. 248; Carle C. Zimmerman, Incomes and Expenditures of Minnesota Farm and City Families, 1927-28. St. Paul: Minn. Agric. Exper. Sta. Bull. 255.

undertaken by the United States Government in the field of family living is known as the study of consumer purchases. The survey on which this study was based was initiated in 1935-36. It is a joint project under the direction of the Bureau of Labor Statistics, the Bureau of Home Economics, and the Works Progress Administration, and has to do with consumers' purchases in both urban and agricultural areas practically throughout the nation. There are two series of publications, one of which is urban and the other rural. The urban and rural series parallel each other, and present compareble data by geogrophic regions. The analyses of purchases are made by income and occupational groups, and in consideration of sources of income, size of families, and relief or non-relief status, as well as other socio-economic variables. There have been several publications released in both the rural and the urban series. Besides affording a vast storehouse of factual information on income and expenditures these reports contain facsimiles of schedules used, many useful definitions of concepts, notes on methods, and classifications of workers and types of family along with other useful helps to the research worker. A full and comprehensive review of the consumer purchases study and the reports published from it up to the close of 1940 would occupy at the very least far more space than can be given it in a general survey of this type.

The preceding discussion of literature does not pretend to cover all the important studies which have been made but only those which were influential, in the main, in setting the patterns which later investigations have followed. Especially has the emphasis been placed upon studies which have influenced most strongly the work in the field of family living by rural sociologists at the several state Agricultural Experiment Stations,

and in particular the present study. To review all the literature on standards of living would be a sizeable project in itself.

3. The Bio-Social Composition of the Farm Family.

Probably more than in any other industry, the family is an essential institution in agriculture. Whether or not this is true, there are only a very few specialized forms of agriculture in which at least a skeleton form of the family is not relatively indispensable. Sometimes quasi-family groups are able to function for a time in agriculture, but such groups are relatively unstable and short lived. If the family be defined in the narrow biological sense as consisting of parents and children related by blood and marriage and dwelling together as a unit, all other groups which may lack these minimum elements may be regarded as quasi-family groups if they live and work together as a unit. These include orphaned children who are still resident at the family home, one-person households, or households made up of several persons lacking the bonds of marriage and kinship by blood. The household is distinguished from the family in that it may be regarded as any group sharing a common shelter and table and dependent upon a common source of maintenance.

Probably one of the most convenient breakdowns of households is by structural types. In their study of relief families, Zimmerman and Whetten have divided families into three major classifications: (1) normal families, (2) broken families, and (3) non-family types. Under each of these categories are also included households containing other persons and households without other persons.[40] This study by Zimmerman and Whetten represents a relatively late achievement in the effort to classify

[40]See Carle C. Zimmerman and Nathan L. Whetten, Rural Families on Relief. Washington: W. P. A. Res. Monograph XVII, 1938, pp. xxi, 186.

households and families. Groves and Ogburn, Parten, Lively and many others have employed similar but more elemental categories for a number of years. The principal difference between these earlier studies and that of Zimmerman and Whetten is that these authors have gone further toward integrating household types than most of their predecessors, and at the same time have preserved the identity of all the simpler classifications.[41]

In practically all current studies of the bio-social composition of the family the objective has been to show the relationships which exist between members with respect to kinship and type of family structure. The strictly normal family, to use Zimmerman and Whetten's terminology is composed of the married pair and the resulting offspring dwelling in the same household. This is a narrowly restricted conception of the family. The married pair, technically speaking, does not constitute a family. If there have never been children born to a married pair, the unit comprises a household only. If children have been born, and have either died or grown to maturity and emigrated from the parental roof, while the original pair remains alive, the result is a disintegrated family. It has become again a household.[42] Besides the normal family,

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[41]See Mildred Parten, "A Statistical Analysis of the Modern Family," The Annals of the American Academy, Vol. 160, March 1932, pp. 29-37. Also see Mildred Parten and Ruby Jo Reeves, "Size and Composition of the American Family," Amer. Soc. Rev., Vol. 2, no. 5, Oct. 1937, pp. 638-650; Ernest R. Groves and William F. Ogburn, American Marriage and Family Relationships. New York: Henry Holt and Co., 1928, Ch. XI; C. E. Lively, The Growth Cycle of the Farm Family. Columbus: Ohio Agric. Exper. Sta. Mimeograph Bull. 51, Oct. 1932, p. 8; F. Stuart Chapin, Contemporary American Institutions. New York: Harpers, 1935, Ch. VI; W. A. Anderson, The Composition of Rural Households. Ithaca: N. Y. (Cornell) Agric. Exper. Sta. Bull. 713, Feb. 1939; Paul H. Landis, Rural Life in Process. New York: McGraw-Hill Book Co., 1940, p. 350; Commission on Cuban Affairs, Problems of the New Cuba. New York: Foreign Policy Association Inc., 1935, Ch. IV.

[42]Cf. T. Lynn Smith, op. cit., pp. 350-351.

there are many broken families, that is households in which the marriage has been terminated by separation, divorce, or the death of one of the mates. Also, there are families which are strictly intact and are normal in all respects so far as the biological unit is concerned, but which have in the household other persons, such as parents of the mates, other kinsmen, and sometimes persons not related in any way to the family. In the last category are the quasi-family units, or as Zimmerman and Whetten call them, non-family types. These units are made up from an indeterminate number of sources. They resemble families because of their occupying a common dwelling, depending upon a common source of support, and existence as a socio-economic unit. They have varying degrees of kinship, or none, but usually their existence is not contingent directly upon the marital bond within the group itself. It may be pointed out also that in any form of household, persons may be found to exist permanently or temporarily without there being any semblence of kinship with respect to the married pair or the titular head of the household.

In agriculture, there seems to be a strong tendency for the household, whatever its bio-social structure, to be more or less familistic in respect to socio-economic organization and for it to be fused into an organic whole in this latter sense. In witness of this, it is but necessary to observe how often non-related persons live and work "just as one of the family." Hired laborers, traditionally in many parts of the country, receive their table board and their laundry, care in case of sickness, their bed, and, in fact, ministrations of all kinds along with the members of the family in the households of their employers. Occasionally boarders and lodgers in farm homes, that is persons like the school teacher whose work is entirely away from the farm and who pay board in

cash, are given special treatment and may have a separate room with all the available comforts, while the hired men share with the family. It is a rare exception, however, when anyone who attaches himself to a farm household is not accorded "family privileges" whether in respect to his personal needs, or in such matters as attending church and other forms of social participation. This observation is widespread and scarcely requires elaboration except to say that it goes a long way toward explaining why farm households, whatever their biological origin, resolve themselves very quickly into family-like entities and have a tendency to preserve that organization unless death or migration brings them to a state of dissolution.

4. The Life Cycle of the Farm Family.

In contemporary literature, especially that which has appeared since about 1930, there has been a growing emphasis upon the significance of the life cycle of the family. The life cycle describes the growth of the family beginning with the marriage of the mates, the cumulative growth of the family as children are born, the processes of decline in the family due to the marriage, migration, and occasional deaths of children, and the final dissolution and disintegration of the family as the aging parents are left alone and ultimately die. There are two aspects of the family life cycle, the bio-social and the socio-economic. As family growth in numbers of dependents takes place, increased demands are made upon the breadwinner. In order to keep pace with these mounting requirements, economic adjustments have to be made, more land must be acquired, operations must be expanded, or by some means the capacity of the family to meet annually increasing expenses must be found. On the farm, this is usually accomplished by the cultivation of greater

amounts of land, the increased use of equipment, or by increased use of family and hired labor, or by all of these methods simultaneously. After the climax of the family life cycle has been passed, the reverse process of economic adjustment becomes operative. The family head, due to increasing age and waning energies, begins a process of retrenchment in his scale of operations. If he is a farm renter he rents less land; if an owner, he leases land to others, divides his farming operations with one or more of his children, and usually retires more or less gradually as age creeps upon him. This is the simplest way in which an ideational description of the family life cycle can be given.

Sorokin and his associates have described the socio-economic phases of the family life cycle in some detail.[43] These authors have correlated property holdings and comparative economic well being with changes in the composition of the family. However, they have not used actual quantitative data to demonstrate their hypotheses. That does not detract from the value of their discussion since its purpose, more than anything else, is to develop a conceptual approach toward the study of the phenomenon of family life cycles. Following the scheme worked out by Sorokin, Zimmerman and Galpin, Loomis made a factual study of the growth cycle of the farm family in North Carolina.[44] This study represents the life cycle of the family graphically and shows the principal characteristics it assumes at each of the four stages through which it passes. It conceives of the family as a dynamic entity which undergoes continuous change from the moment of its inception until that of its final disintegration.

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[43]See Pitirim A. Sorokin, Carle C. Zimmerman, and Charles J. Galpin, A Systematic Source Book in Rural Sociology. Minneapolis: University of Minnesota Press, 1930-32, Vol. II, Ch. X, especially pp. 30-33.

[44]Charles P. Loomis, The Growth Cycle of the Family in Relation to Its Activities. Raleigh: North Carolina Agric. Exper. Sta. Bull. 293, June 1934.

Lively, working in Ohio in 1932, made a similar, but more elemental study of the life cycle of the family.[45] His data were shown graphically, but were not as definitely correlated with the activities of the family as were those of Loomis. Both of these studies were motivated in part by the particularistic family concepts of Le Play, although neither of them was pursued along the lines of the Le Play method itself.

Commenting on the life cycle of the family, Loomis, in a later paper, says that the life cycle has as its positive basis (1) additions which are due to births, and (2) the additions of relatives who are not children. The negative side, he points out, lies in the gradual breaking up of the family as the children leave home or die.[46] He might have stated too that the maturation of the family in age is a factor which exerts both a positive and a negative influence, respectively, in the earlier and in the later phases of family history. That is to say that the size of the family being constant, age is significantly correlated with both the functions and the activities of the family. As Loomis rightly says, the farm family may be regarded as a protective society. It protects its own young and in addition during its earlier stages it receives the parents and older relatives of the mates while in its later stages it receives and protects the grandchildren. More space will be devoted to this point later. Strictly speaking, Loomis confuses the problem somewhat when he introduces persons who are not the immediate offspring of a given married pair into the life cycle of the family.

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[45] C. E. Lively, The Growth Cycle of the Farm Family. Columbus: Ohio Agric. Exper. Sta. Mimeographed Bull. 51, 1932.

[46] Charles P. Loomis, "The Study of the Life Cycle of Families," Rural Sociology, Vol. I, no. 2, June 1936, pp. 180-199.

As a matter of literal adherence to most commonly accepted definitions of the family as it now exists, the family can grow only by the marriage of two persons and the increase of their offspring by birth and by adoption of other persons as their legal children. Otherwise, the resulting units taken in their entirety represent households rather than families.

There have been relatively few studies of the life cycle of the farm family, and all of them have been similar in principle but somewhat different in detail. Loomis follows very closely the categories of Sorokin, Zimmerman, and Galpin. That is, the cycle includes both the prechild and the postchild stages in the study by Loomis. It is the contention of Loomis and Hamilton that in general the life cycle of a family begins with the marriage of a husband and wife, and ends with their deaths if there are children who outlive them.[47] In case there are no children or if the children die before the death of either parent, the cycle ends with the death of one of the mates. Lively's study does not set up these restrictions but describes the life cycle of the family at the end of quadrennial periods.[48] Kirkpatrick and his associates have studied the life cycle of the farm family and have determined the stages primarily by growth or advancement of the family. They include four stages: (1) preschool, with children under six years of age; (2) grade school, with children from six to twelve years of age; (3) high school, with children from fourteen to eighteen years of age; and (4) the all adult family with children nineteen years of age or over.[49] These writers

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ysis," Social Forces, Vol. XV, no. 2, Dec. 1936, pp. 225-231. to Anal-

[48] C. E. Lively, op. cit. This study does not differentiate the life cycle of the family into stages. life cycle of the family into stages.

[49] Ellis L. Kirkpatrick, Rosalind Tough, and May L. Cowles, The Life Cycle of the Farm Family. Madison: Wisconsin Agric. Exper. Sta. Res. Bull. 121, Sept. 1924, p. 2.

recognize the prechild and the postchild stages, but give very little attention to them. Thus, they would have six stages, in place of the four identified by Sorokin and Loomis. The analyses which Lively and Kirkpatrick have made are either not complete or not definitive. Kirkpatrick's stages are premature although they are more numerous than those of Loomis. Moreover, the principal determinant in Kirkpatrick's stages are cultural and arbitrary. If the school age were changed by law or custom which now vary in different jurisdictions, his scheme would be nullified. Loomis on the other hand has relied upon factors that are bio-social in character to determine the stages he defines, and his technique may be applied to any family anywhere at any time. Kirkpatrick does not concern himself with two of the most important phases of family life, that before there are children and that which comes after the children have left home. In the study now under way the technique of analysis used by Loomis has been employed.

Loomis and Hamilton describe two methods of studying family life cycles: First, the historical method is used to study a large number of families which began their cycles in the same year from which beginning point the average length of the cycles and of the stages are figured. Second, the cross-sectional method studies the life cycles of large numbers of families beginning at different times. In the first instance, the result is a selected group of families which do not represent the mass of families but only those of a particular age characteristic, using age in the sense of duration of marriage. Possibly this method will yield as fair a picture of individual life cycles as can be got from mass data. However, it eliminates all other families entirely which do not fall within the specific time period selected. In the

other hand, the cross-section method describes the group pattern quite well but does not delineate individualized family life cycles since it is affected cumulatively by divorces and deaths. On the other hand, the historical method is impractical because of lack of records, failures of memory, and the extreme difficulty of finding conveniently sized samples of families which were begun at the same time.[50] After all, practicability is a factor in social research to which deference should be shown probably more often than is generally recognized.

By way of further comment upon the questions raised by Loomis and Hamilton, it may be said that from the sociological point of view, it is the generalized rather than the individualized picture which is most useful. Individual cases are not important as such but only as they build up toward a generalization. The only way to get an accurate account of the growth cycle of individual family situations is to make large numbers of case studies singly, for even the historical method using averages and other central tendencies obscures the individual case quite largely. Whether one of these methods is to be chosen in preference to the other depends to a large extent upon the specific purpose at hand. For purposes of administering social work and public welfare, for example, it is likely that the historical method would be definitely superior to the cross-sectional method of study. To describe a general social situation supported by census types of data, the cross-sectional method should have the advantage. At least, it is used in this study upon that theoretical justification.

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[50] Loomis and Hamilton, op. cit., pp. 225-231.

5. Social Functions of the Family.

As has been shown above, there are numerous functions of the family. In agricultural society these functions are highly intensified because of a relative absence of competing agencies. This in turn is accentuated by spatial separation of families, by the socio-economic organization of the family, and by cultural isolation. Even where agriculturalists live in villages, there are comparatively few families, wealth and income are low, and the farm itself provides a means for utilizing the energies of children, and the prevailing attitudes of parents do not favor encroachment upon the family by outside agencies. Thus nursery schools could not find adequate support; juvenile organizations are regarded as unnecessary; and people are not pressed to find something for their children to do in the typical neighborhood. This situation fortifies the farm family against having its jurisdiction invaded by professional organizations and to a large extent by informal agencies.

By going back a little in time and by travelling to remote places, it is possible to find out more about conditions that prevail with respect to the family where it is not overshadowed by the disruptive influence of nearby urban culture. For example, Horvat says the Croatian and Slavic families exist under the general framework of cooperative organization. Here the function of caring for the aged, for widows and widowers, and for other dependent relatives is seen at its climax. In those societies the family is able to transfer the old inherited culture, the customs, arts, national history, and epics in a way that is impossible for less cooperative families to do. In these more ancient forms of family organization, the family is the unit within which division of labor, competition, and cooperation take place. It is, therefore, the basis of prop-

erty ownership, reproduction, education, government, and social relationships at large. The family unit is responsible for the conduct of its members toward other family units particularly in regard to behavior involving the general family government. If on his own accord an individual violates the property rights of another, he alone is held liable, but if in causing injury to others he is carrying out the mandates of his large family group, the head of the family is accountable.[51]

Frédéric Le Play brings the discussion of family functions more closely to the American situation both ethnographically and culturally than does Horvat.[52] After discussing the patriarchal family at length, Le Play concerns himself with the type of family which he called *la famille-souche* and which more closely approximates the American farm family. Being somewhat individualistic in character, the *famille-souche* (stem family), according to Le Play, begins to prepare children at an early age for the tasks and responsibilities of acquiring and holding property in their own right, of caring for themselves, of building democratic representative governmental institutions, and of preserving the moral code. In the "particularistic" family--a term supplied by Le Play's disciples but not used in his own writing--there is a centralization of authority in the family head which is not hereditary but ceases as soon as the children become self-sustaining. The children are taught to fend for themselves and to assume individual responsibility for their own conduct. This equality of responsibility, of rights to have and to own prop-

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[51] See Sorokin, Zimmerman, and Galpin, *op. cit.*, Vol. I, pp. 57-67, which gives an adaptation of V. Horvat's study, "Forms of the Family Among the Croatians and Southern Slavs."

[52] F. Le Play, *op. cit.*, Vol. I, pp. 130-143, Vol. III, pp. 350-352, *et passim*. For excerpts from Le Play's works, see Sorokin, Zimmerman, and Galpin, *op. cit.*, pp. 76 *et seq.* Also see Zimmerman and Frampton, *op. cit.*, pp. 124-149, for a further discussion of the *famille-souche*, or stem family as it is styled.

erty, coupled with the necessity for establishing one's own independent existence upon arrival at maturity has led, Le Play thinks, to the abolition of the practice of primogeniture and of giving dowries to marrying daughters. Hence this type of family system leaves the aging parents in possession of their life's earnings and equalizes the division of family property among children upon the death of their parents. It is from this individualistic type of family that Le Play would account for the origin of the American farm family through its Anglo-Saxon antecedents.[53]

In this country, as will be seen later, the farm family has outgrown the patriarchal pattern. While children are taught to work on the farm with the family as a whole, they have unrestrained liberty to choose the occupation of their liking and to leave the family home at the approach of adulthood to go in search of their own fortunes. Thus, the farm family served as a source of recruits to the ranks of industrial labor, business, the professions and an unlimited variety of personal services in places greatly removed from the parental home. In doing this, the farm family plays an important part, not only in preserving the national culture but also in facilitating the diffusion of culture, and particularly in the fusion of rural and urban cultures. If the Le Play theory of the *famille-souche* be valid, it is obvious that the social functions of the family may extend far beyond the natural confines of the organic family unit

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[53] See F. Le Play, *op. cit.*, Vol. 1, pp. xxvii-xlii. Also, see Edmond Demolins, *Anglo-Saxon Superiority: To What It Is Due* (Leveigne translation). New York: R. F. Fenno & Co., 1899, pp. 77 *et passim*. Demolins, who was the chief popularizer of Le Play in France, enlarges upon his master's text somewhat. His thesis is that the superiority of England and her colonies over the remainder of the world in times past has grown out of this individualistic form of family organization which was carried to the British Isles by the Danish invaders. It is not the purpose of this study to analyze the political repercussions of any family system but rather to account for the social functions of the family within the sphere of the culture in which it exists in a given form.

itself. The number of studies on various aspects of farm family behavior which, directly, or indirectly, lend credence to this point of view is great indeed.

The function of reproduction of the species, about which the fabric of family life has been woven closely, bears a rather significant relationship toward the cultural milieu in which it exists. However, the measures of the existing relationships are not always uniform. Parental education as a factor influencing the number of offspring has been studied extensively in recent years. Howard J. Banker found that the mean number of children born per family decreased consistently as the education of either or both parents ranged upward from the common school, through high school, and through college.[54] Griffing found that in China, the number of living children per family increased directly with the education of parents, but he attributes this to a more favorable survival rate rather than to a higher birth rate in the families of the more highly educated people.[55] On the other hand, Butt and Nelson found that the education of parents has very little to do with the size of families.[56] In all probability, the results obtained by Butt and Nelson may have been affected by the influences of religion in such a way as to offset the weight of education in decreasing the fertility of the population since their data were taken from Mormon settlements. Whetten found a low but statistically significant negative correlation between education and the size of families.[57] Again, McKain and Whetten found that a positive correlation exists

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[54]Howard J. Banker, "Education and Size of Families," Jour. Heredity, Vol. XVI, pp. 57-59.

[55]J. B. Griffing, "Education and Size of Families in China," Jour. Heredity, Vol. XVII, pp. 331-337.

[56]H. I. Butt and Lowry Nelson, "Education and Size of Family," Jour. Heredity, Vol. XIX, pp. 327-330.

[57]N. L. Whetten, "Education and Size of Family," Jour. Heredity, Vol. XXIV, pp. 275-278.

between the homogeneity of parental traits and the fertility of families, at least with reference to place of birth, national origin, age difference, religion, and education.[58] Cook has shown that the prospective fertility of the family declines consistently with each year the woman postpones marriage after age 19 is attained. Prior to that age postponement of marriage exerts no measurable influence upon probable fertility.[59] From these studies, with the exception of that of Butt and Nelson, it is apparent that the reproductive function of the family is, in general, affected by the education of parents prior to marriage, by the ages of parents at marriage, and by the similarities of the social characteristics of parents. Undoubtedly, there are other factors, such as occupational status, economic status, and the attitudes of parents toward children, which may be more potent influences upon family size than the factor of formal education. It is known that all these socio-economic differentiations are associated with differential fertility.[60]

Practically all investigators place the reproductive function of the family in the foreground, then follow in various ordinal arrangements the functions of caring for and rearing the offspring especially during the years of complete dependency; education and training of the young; the induction of the children into the larger society and establishing their group status; recreation; protection of members from physical

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[58] W. C. McKain and N. L. Whetten, "Size of Family and Parental Traits," Rural Sociology, Vol. I, no. 1, pp. 20-27.

[59] R. C. (Robert Cook), "Effect of Age at Marriage on Size of Family," Jour. Heredity, Vol. XXVI, no. 8, 1932, pp. 317-321.

[60] See Zimmerman and Whetten, op. cit., p. 131; Frank W. Notestein and Marifa Dallume, "Fertility of Specific Occupational Groups," Quarterly Bulletin, Milbank Memorial Fund, Vol. X, no. 2, 1932; Otis D. Duncan and Jesse T. Sanders, A Study of Certain Economic Factors in Relation to Social Life Among Oklahoma Cotton Farmers. Stillwater: Oklahoma Agric. Exper. Sta. Bull. 211, 1933, p. 15, to mention only a few studies which have shown these differences.

dangers and psycho-social isolation; and the care of aged and other incapacitated members, relatives, and sometimes neighbors or friends.[61] To these functions others may be added, for example, the facilitation of happiness and comfort.[62] It is specifically an agency for the establishment of socially sanctioned relationships between the individual and the community, such as the right to inherit property, to claim citizenship; in some societies, to enjoy the benefits of religious worship, establish the esteem which the individual enjoys in the eyes of the larger society. Calhoun likewise treats these same subjects in a broad general way.[63] Howard, in his brilliant history of matrimonial institutions, touches upon these points mostly by inference since he deals with marriage primarily rather than with the family institution.[64] A function of the family which is often treated too sparingly, especially in specific forms in contemporary literature, is that of an agency of social control, both in an informal and a juridical, or a quasi-juridical, sense. Parental authority and discipline are often instrumentalities for interpreting and carrying out the laws of the land particularly in respect

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[61]Such is the list of family functions enumerated by T. Lynn Smith, op. cit., p. 355. Paul H. Landis, Rural Life in Process, pp. 235-238, reduces the major functions of the family to three: passing on the biological heritage; transmitting the cultural heritage; and providing a primary agency for socialization.

[62]Sorokin, Zimmerman, and Galpin, op. cit., Vol. II, p. 4.

[63]Arthur W. Calhoun, A Social History of the American Family, 3 vols. Cleveland: Arthur H. Clark Co., 1917. Practically the whole of Volume I is concerned either directly or indirectly with functional aspects of the family. Calhoun's work lacks a scientific perspective, and seems to be rather uncritical of the materials incorporated into it. Yet the study is provocative and stimulating.

[64]George E. Howard, A History of Matrimonial Institutions, 3 vols. Chicago: The University of Chicago Press, 1904. This monumental study is devoted almost entirely to marriage in England and America. Its chief value here is in connection with marriage as a manifestation of group mores.

to juvenile conduct. Both the courts and the school authorities rely upon the family in a large measure to serve as an intermediary to enforce public regulations within its own sphere of activity. This was a definitely recognized function of the patriarchal family which was in a broad sense its own law giver.[65] However, with the decline of the patriarch this function was greatly modified, and perhaps weakened, but it has not disappeared entirely, and its presence is still felt quite appreciably in agricultural societies where the roles of constituted civil authorities and of voluntary welfare agencies are relatively much more feeble than in the cities.

6. Influences of the Farm Family upon Its Members.

Obviously, from the discussions of processes within and functions of the farm family, it is evident that the influences of the family upon its members are great as to both range and intensity. All known authorities bear testimony of this either by direct affirmation or by implication. Nowhere is the true sociological basis for this contention more adequately laid than in the various writings of Sorokin and Zimmerman. They point out that the family is one of the most important social groups from many standpoints. First, it constitutes the first social environment of the child. Second, it is the principal agency in determining the initial forms of behavior, attitude patterns, systems of beliefs, tastes and opinions, convictions and valuations which will be adopted by the child. Third, the family is not only the first group into which the individual is introduced, but it is also a cumulative group through which practically all the social bonds between the young child and human society at large are maintained. Both the number and the power of these bonds are

[65] Cf. Sorokin, Zimmerman, and Galpin, op. cit., Vol. II, pp. 70-76.

great, and the more so in agricultural and other groups remote from the complexities of urban culture. Moreover, the intensity of the social bonds which reach the individual through the family is accentuated by the fact that they operate through direct contacts, that they are personal and intimate in character, and that they are of relatively long duration in time. It may be added also that these family bonds are highly resistant to the shattering effects of spatial separation of family members in adult life. The family is not only a cumulative group, one with immumerable bonds, but it is indisputably a primary group, particularly in agricultural areas, at least until its disintegration sets in.[66]

From the foregoing statements, it may be seen that the family, within its sphere of action is an over-all, a totalitarian, institution. It is all-embracing, possesses a high degree of solidarity and intensity in its internal relationships, and it is relatively durable. Coercion is not necessary to keep its members together but rather to separate them. The affectional bond, which is not the result of a legalistic contract, is a manifestation of a voluntary, spontaneous, implicit attraction. The familistic relationship eliminates or mitigates or minimizes the feeling of estrangement among its members. In the true family situation, the individual's whole life is fused into that of the collective unity.[67] The point of view which Sorokin expresses here is influenced

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[66]Cf. Sorokin and Zimmerman, op. cit., Ch. XV; Sorokin, Zimmerman, and Galpin, op. cit., Vol. II, Ch. X, Vol. I, Ch. VI. Also see Hazel Kyrk, op. cit., Ch. III; Paul H. Landis, ibid., pp. 336-337; Paul H. Landis, Social Control. Chicago, J. B. Lippincott Co., 1939, Ch. XIII; Joyce O. Hertzler, Social Institutions. New York: McGraw-Hill Book Co., 1929, pp. 52, 76-77, 155, 176-177; Carle C. Zimmerman, The Changing Community. New York: Harpers, 1938, pp. 234 et passim.; Pitirim Sorokin, Social Mobility. New York: Harpers, 1927, pp. 175-184, ff.

[67]See Pitirim A. Sorokin, Social and Cultural Dynamics, 3 vols. New York: The American Book Co., 1937, Vol. 3, pp. 23-30.

by that of Toennies which is very similar in character and antedates that of Sorokin by a half century. Toennies contends that family life is the general basis of life in the Gemeinschaft, and subsists in villages and towns which may be considered as large families. Original kinship and inherited status are essential. Children are free, although dependent during minority, and honored guests may approach the status of children in respect to the rights accorded them. Thus the Gemeinschaft and the family are analagous. The main laws of the Gemeinschaft are: (1) Relatives and married couples adjust themselves to each other; (2) between people who love each other there is understanding; and (3) those who love and understand each other easily remain and dwell together and organize their common life. It can be seen that this conception counterbalances the influential role of the family against that of the community. The logical interpretation is, therefore, that the family is functionally complete in its own realm as the community is likewise complete. Otherwise, the parallelism would be an absurdity.[68]

Throughout Le Play's Les Ouvriers Européens, he maintains that the influence of the family upon its members is so momentous that the composition of a society is quite largely a reflection of the family life which goes on in it. This highly important thesis cannot be ignored although to give it the thorough examination it deserves is a task of sufficient magnitude to constitute a major research project in itself. Besides in his own works, the Le Play theory of family and social composition has been explained at much length by Demolins, Sorokin, and Zimmerman. As has been said already, the Le Play school accounts for the differences

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[68] Ferdinand Toennies, Fundamental Concepts of Sociology, 8th Ed. (Loomis, trans.). New York: The American Book Co., 1940, pp. 48 et passim. See also Zimmerman and Frampton, op. cit., pp. 276-284, where the conceptual analysis in terms of this point of view is carried out in some detail.

between the social and political institutions of English speaking and the Latin and Teutonic countries through the influence the English family system has had upon the character of their respective peoples.

If looked at broadly it appears that the influence of the family upon not only its members but also the entire society through its members is virtually illimitable. In a more specific sense, in so far as there are measuring devices delicate enough to register the direct influence of a family upon one of its members, these broad general correlations such as Le Play, Sorokin, Toennies and others have sought to establish may be arrived at inductively to a great extent. One of the most often quoted studies on this point is that of Hartshorne and May in which they found that children's ideas of right and wrong show a greater likeness to those of their parents than to those of anyone else, and that they are influenced least of all by the sources tested by teachers at school and Sunday school. It scarcely requires proof that boys are influenced to follow in their fathers' occupations in a very large proportion of cases. In matters of formal education, the persistence of children in school is believed to be greatest by those whose parents had what in their youth were superior educational opportunities. E. L. Clarke, J. Philiptschenko, P. Sorokin, A. Odin, J. M. Cattell and many others have shown that there is a pronounced correlation between family status and the careers of children.[69] The same correlations have been applied to political party affiliation, religious denominational identity. This may be carried so far as to apply to food and clothing habits although in these instances, particularly in isolated areas, it is not unlikely

[69]The results of these studies are shown in Sorokin's Social Mobility, Chs. X-XII, and in his Contemporary Sociological Theories, Ch. XIII.

that the question of accessibility will exert a strongly determinative influence. However, under any circumstances children are taught by their parents what is good for food, which plants and animals are edible and which are not. All this instruction and conditioning of children through parental influence is directly contributive toward the formation of habitual behavior patterns which may lead ultimately to definite correlations between the family institution and the social composition of the larger society.

While the foregoing correlations have not been drawn in all cases from farm families, the logical inference is that if they are applicable at all, they are more applicable to the farm family than to the family in more complex social environments. More and more, students of the family are being forced to go to the rural areas to find their data because urban family life is so greatly shaken and distorted by the economic organization, which might all but disrupt the city family even if all other influences were favorable to it, and by the invasion and usurpation of family prerogatives by numerous extra-familial agencies, that a pure form of family life <u>en toto</u> is difficult to find elsewhere. It seems reasonable to deduce that any definite family influence which is traceable directly to its members in a non-rural situation may be found in far greater prominence in a thoroughly rural environment where the family is not under the unending necessity of yielding its functions to putative welfare agencies. At least, within this study an attempt will be made to find out some of the ways in which parental behavior finds a medium for continuation in children as they reach maturity and make adjustments for themselves.

PART II. ECONOMIC ASPECTS OF FARM FAMILY ORGANIZATION

CHAPTER III

FARM BUSINESS ORGANIZATION

1. The Farming Situation of the Area in 1932-33.

The crop year in the north central winter wheat section may be considered as extending roughly from July 1 to June 30. During July and August, if moisture conditions permit, the heavy plowing of the land in preparation for early fall seeding is done. The grain is drilled into the ground in September or October if possible so that the young crop may receive the benefits of the fall rains. During the winter and early spring months the growing wheat is frequently grazed as pasture for cattle. In the late spring the cattle are taken off and the wheat grows and ripens. In seasonable years, the harvesting is done from about the tenth to the middle of June, and soon after preparations are again under way for the next crop. For this reason, the business year of this study was taken as beginning July 1, 1932, and ending June 30, 1933.

It will be recalled that the period covered by this survey was one of severe depression. The condition of agriculture generally was desperate. Most of the 1932 Oklahoma wheat crop had been sold for less than thirty cents per bushel to the farmer, and the prices of other farm commodities were correspondingly low. On the other hand, interest, taxes and other fixed charges which had been inflated by the World War boom were made proportionately higher in 1932-33 because of the sharply downward trend in the prices of farm products. At this time the government's program of farm relief had not been inaugurated, and farmers were at a loss to know what to expect. It was in this, the most intense phase of

the business crisis, that the survey was undertaken. In the spring of 1933, the most devastating drought that had occurred in several years set in, and the wheat harvest began approximately two weeks earlier than usual. In conjunction with the onset of the drought and in anticipation of the governmental program, wheat prices began to rise. The new price trends were begun almost coincidental with the completion of the survey. However, the price improvements came too late to be reflected perceptibly in the data.

From 1930 to 1933 the influences of the depression were felt upon agriculture in many ways. Farm incomes were reduced to a mere fraction of their former volume. Values of real estate, livestock, and equipment shrank violently as a result of the drastic decline in the general price level. Mortgage foreclosures were executed at an alarming rate. In some cases farmers abandoned all attempts to keep up interest payments and surrendered their farms without waiting for court action. Equities in farms almost disappeared while mortgages against land remained undiminished, and default in taxes and interest payments became increasingly frequent.

In spite of the most unfavorable circumstances with which the farmer was surrounded, he was able on the whole to maintain a semblance of solvency. This he did in several ways: First, by attempting to lower his production costs; second, by keeping his yield factor at the optimum possible under climatic conditions; third, by reducing his inventory, in a substantial number of cases, so as to obtain relief through the reduction of overhead; fourth, by attempting to convert every possible resource at his command into cash even if sales had to be made at prices which were lower than replacement values.

2. Change in Inventories.

During the crop year, July 1, 1932, to June 30, 1933, there was a noticeable tendency for most farmers to decrease their inventories of machinery and livestock. Of the total 562 farmers, only 11 reported no change in their inventories, while increases were reported by 137, and decreases by 414 farmers. This they did by selling their livestock not in actual use and either by selling their machinery or abandoning its use in many cases. As can be seen from Table 4, relatively more owner than tenant operators reduced their inventories. Also it can be seen that on an average owner farmers reduced inventories more heavily than tenants. This is probably due to owners having heavier burdens of taxes and interest than tenants. The depression usually dealt more severely with the property owner than with the non-property owner, because the incidence of taxes, interest and depreciation is concentrated upon property, while ownership of farms does not always add to the farm income earning ability of farmers in proportion to its fixed costs during a period of falling prices.

The nature of the assets owned by the farmer at the close of the business year is an important indication of the degree of diversification of his resources. Unfortunately, it was impossible to obtain reliable information on the trends that had taken place during the years immediately preceding the survey for two reasons: First, the farmers were unable to remember all these details, and very few if any accounts were actually kept in record form. Second, the rapid downward changes in values which occurred between 1930 and 1933 would render the information almost valueless if it could be had. While it is by no means assured that farmers' appraisals of their assets for 1932-33 are reliable, since

markets had been demoralised and there had been little effort to check depreciation, a summary of the estimated values of assets is given in Table 5 on the basis of the farmers' own estimates for that year.

Table 4. Change in Inventory, Principally in Livestock and Machinery, on 562 Oklahoma Wheat Farms from July 1, 1932, to June 30, 1933, for Farmers of Each Tenure Class

Type of change in inventory	Percent of farmers reporting		
	All farmers	Owners	Tenants
Total number	562	298	264
No change	2.0	1.3	2.7
Increase	24.4	20.8	28.3
Decrease	73.6	77.9	69.0
	Average change reported in dollars per farm		
Increase	$324	$428	$237
Decrease	331	390	256
Net change (decrease)	165	215	109

5. Assets of Farmers.

From the summary given in Table 5, it is easy to see that the actual liquid assets of farmers, cash and savings and cash value of paid up life insurance comprised only a very small part of the farmers' total assets.[1] For the most part the values placed on property are estimates made by the farmers themselves. This may be a source of bias. As a rule it seemed that the farmer, even in 1933, was inclined to consider the value of his holdings as being lower than was actually the case. No doubt, his gen-

[1]It will be noted by comparison with data obtained by P. H. Stephens and Emil Rauchenstein (Systems of Farming in Oklahoma. Stillwater: Oklahoma Agric. Exper. Sta. Bull. 199, 1931, p. 13) for Garfield and Blaine Counties in 1928, which are typical counties of the winter wheat area of Oklahoma, that the nominal value of land as estimated by the farmers themselves, did not decline perceptibly between 1928 and 1933. This, no doubt, was a source of hardship on the farmers of this area because it had a tendency to bolster up the fixed charges against the farm operations of the depression period.

eral attitude toward values was influenced by the demoralized conditions of business in general. In the depression period the slow movement of real estate sales which comprised the bulk of the assets owned by farmers in each locality made it almost impossible for the farmer himself to have an accurate idea as to the worth of his property because he had no adequate objective standard by which to measure its values. He could remember the assessed valuation placed on it for taxation purposes but with the market virtually destroyed he was at a distinct loss in trying to estimate the actual market worth of his holdings. Even with a probability of a high degree of error in the estimates of the value of farmers' assets, the data have at least one concrete value. From them it was possible to form an idea of the distribution and the relative importance of various types of assets owned by the farm population.

Table 5. Average Estimated Cash Values of Assets of Different Types Owned by 562 Farmers at the Close of the Business Year, 1932-33, for Different Tenure Classes*

Types of assets owned	All farmers		298 owners		264 tenants	
	Average value	Percent of assets	Average value	Percent of assets	Average value	Percent of assets
Total assets	$7,502	100.0	$12,644	100.0	$1,698	100.0
Land and buildings	4,759	63.4	8,975	71.0	---	---
Livestock	569	7.9	681	5.4	486	28.6
Supplies	749	10.0	888	7.0	593	34.9
Cash and savings	71	.9	121	1.0	14	.8
Shares and bonds	67	.9	110	.8	18	1.1
Paid-up life insurance	259	3.4	345	2.7	161	9.5
Other farms	463	6.2	741	5.9	150	8.8
Other real estate	218	2.9	339	2.7	81	4.8
All other assets	327	4.4	444	3.5	195	11.5

*It will be observed that the totals in Table 5 are larger than those in Table 2. This is because Table 2 contains only such items as are given in the census, with which comparisons were made. Also, the averages given here are only approximate because minor fractions of dollars were discounted in all operations. Percentages are based on totals in each case.

An important fact that rural sociologists have long emphasized is that farmers are a proprietorial social group.[2] In this study, 63.4 percent of the value of all property owned by all farmers was in land and buildings on the operated farm. For owners this amounted to 71.0 percent of all assets owned. Of the total assets owned by all farmers, 72.5 percent was in real estate of some kind. For owners 79.5 percent and for tenant farmers 13.6 percent of all holdings was represented by real estate. While owner farmers had on an average more than twice as much paid up life insurance as tenants, this item accounted for 9.5 percent of the tenants' total assets as compared with 2.7 percent of the assets of owners. The tendency, or the necessity for owning land, is, therefore, characteristic of agricultural society, at least in some measure, from top to bottom. There is no magical reason for this. It is a part of the inherent nature of a settled mode of agricultural production. Such land, along with comparatively large amounts of other property, is required for growing crops and livestock, and as a place of residence for the people.

Agriculture, unlike most businesses, combines the business operation costs, family living expenditures, investment, and savings into a single economic unit. In Table 5 it was shown that the bulk of the cumulative earnings of the farm must be turned back into the land itself. A farmer does not incorporate and issue stock in his business. To say he should do that would be to speculate, because American agriculture is the product of an evolution that has been in process since the world began, and is the result of the interaction of experience and natural factors.

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[2] For further discussion of this point, see Pitirim Sorokin and C. C. Zimmerman, Principles of Rural-Urban Sociology. New York: Henry Holt & Co., 1929, pp. 63-69. Also Arthur T. Hadley, "The Position of Property in America," in Leon C. Marshall's Industrial Society. Chicago: University of Chicago Press, 1918, pp. 973-983.

It is extremely doubtful if at least the general picture given in Table 5 could be changed radically and fundamentally without doing greater violence to agriculture than it has yet experienced.

4. Gross Income of Farmers, 1932-33.

The year 1932-33 was not favorable to the Oklahoma wheat farmer from the standpoint of prices received for farm products.[3] However, the gross receipts of most farmers were high enough that there was little evidence of actual want among those included in the survey. All but a very few of these farmers considered themselves fortunate if they were able to live without going into debt. Of the 562 farmers visited, 27, or 4.8 percent of the entire group, realized gross incomes of $3000 or more from their year's operation. Facts brought out elsewhere in the study seem to show that the farmers of the higher income groups had production costs and overhead charges that were disproportionately high. In other words, it appears that the point of diminishing returns per unit of input into farm operation was reached below the point at which the maximum gross return was realized. For this reason the data in Table 6 are to be interpreted conservatively. They are shown for the purpose of giving a general idea of the economic background of the farmers studied as conditions were in 1932-33.

There is another value in studying the gross incomes farmers received as given in Table 6. That is, such a tabulation shows, perhaps better than any other device, just how great the actual turnover was during the period of the study for owner and tenant operators. Owner farmers were apparently a little more conservative in their farming

[3] For a summary of the situation in respect to Oklahoma farm prices, see Current Farm Economics. Stillwater: Okla. Agric. Exper. Sta., Series 49, Vol. 7, 1934, p. 51.

practices than tenants. It seems that tenants, especially in the ranks above average, tend toward a more exploitative type of agriculture than owners. They can afford to do this because they are able to shift at least a portion of their fixed costs to the shoulders of their landlords. In case of crop failure or low prices their rents, which are paid largely on a share basis, will be proportionate to the proceeds from their sales. But in the case of owners taxes and interest charges do not adjust themselves readily to seasonal variations in economic returns from farm operations.

Table 6. Percentage Distribution of 562 Farmers by Gross Income for Different Tenure Groups

Gross income classes	All farmers (562)		Owners (298)		Tenants (264)	
	Percent of farmers	Average gross income	Percent of all owners	Average gross income	Percent of all tenants	Average gross income
Total	100.0	$1277	100.0	$1472	100.0	$1061
Up to $749	30.8	522	24.5	554	37.9	498
$750-1499	41.3	1045	40.9	1069	41.7	1019
$1500-2249	18.5	1804	20.8	1803	15.9	1806
$2250-2999	4.6	2549	6.1	2593	3.0	2451
$3000 or over	4.8	4856	7.7	4711	1.5	5685

The gross income of the farmer has an important bearing upon his standard of living because it is the total dividend from which both his living and his costs of operation must be taken. For the typical farmer these two broad classes of expenditures compete fiercely one with the other, each struggling for the larger share. When conditions are prosperous the competition is likely to be less keen than in times of adversity because there is probably more flexibility in both the family living and the farm production programs.

In Table 7 the division of the gross income between farm operation

and family living is shown for owner and tenant farmers. It will be observed that farm operation costs consumed larger proportions of the gross incomes of both owners and tenants than family living, and that the division of the gross income between farm operation and family living expenditures was in almost identical proportion for both classes of operators.[4] The most obvious reason for this is that while owners had to bear the charges of interest, depreciation, and taxes, tenants had to pay rents, and the rents paid by the tenant were about equal to the fixed charges carried by the owner relative to gross income. This is partly due to a tendency of the tenant to be a more exploitative type of farmer than the owner. The tenant more than the owner is dependent upon current income to meet his expenses incurred in both operation and family living, and while his income may be lower than that of the owner, he is more likely than the owner to push his operation to the point at which he barely receives pay for his marginal unit of labor. This would tend to cause his cost of operation to be high in proportion to the income he receives.

Table 7. Division of Gross Income Between Farm Operation and Farm Operation Expenditures by Tenure Status of 562 Farm Operators in 1932-33

Tenure status of operator	Number of farmers	Average gross income per farmer	Percent of gross income expended in	
			Farm Operation	Family living
Total	562	$1277	52.2	47.8
Owners	298	1472	52.2	47.8
Tenants	264	1061	52.3	47.7

[4] In separating the gross income into farm operation and family living expenditures an effort was made to count as farm operation every expenditure which was made in connection with running the farm itself, while those expenditures which were made for consumption and which were put aside for future security of the family were counted as family living. Obviously cases often arise in which the decision as to which category an expenditure falls into is a matter that is difficult to determine and the best judgment of the investigator must be applied.

It was shown in Table 5 that full owners had several times more cash savings and supplies on hand than renting farmers. Naturally, under these conditions, renters more than owners are forced to stretch their production to the utmost so as to swell the total cash available during the current year to the greatest extent possible. Even if the point of diminishing returns was reached relatively soon, it was to the advantage of tenants to push their productive energies as far as possible without incurring actual losses because they had very few alternative uses for their labor. Ordinarily, it is to the advantage of share tenant farmers, such as the bulk of those studied here, to make an intensive rather than an extensive use of their labor and an extensive rather than an intensive use of land.[5] But during a depression, it is not unusual to find what seem to be reversals of economic laws in actual operation.

The gross income of farmers is conditioned by a number of factors, yield, size of farm, climatic and geographic conditions, insect pests, prices received, and to a great extent the human element itself. In this study, it is the human equation which commands the primary interest. While there is no adequate index of the efficiency of human energy expended in agricultural production, it is generally agreed that the separation of farmers on the basis of tenure status exerts a degree of selectivity upon the quality of farm operators. Table 8 is set up for the purpose of determining if there is an association between tenure status, size of investment and gross income.

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[5] Cf. Henry C. Taylor, Agricultural Economics. New York: The Macmillan Co., 1923, pp. 144-145.

Table 8. Average Gross Income of 562 Farmers in 1932-33 According to the Size of Investment Operated for Farmers of Different Tenures

Size of farm investment	All farmers (562)		Owners (298)		Tenants (264)	
	Percent of farmers	Average gross income	Percent of all owners	Average gross income	Percent of all tenants	Average gross income
Total	100.0	$1277	100.0	$1472	100.0	$1061
Up to $2499	39.1	850	3.4	539	72.5	865
$2500-4999	12.3	1214	9.4	788	15.5	1505
$5000-7499	9.8	1233	15.1	1015	3.8	2213
$7500-9999	13.0	1164	24.2	1145	.4	2540
$10,000 and over	25.8	2029	47.9	1975	.8	6020

From Table 8 it can be seen that the gross income of all farmers tended to increase as the size of the investment grew, but on an average the size of the investment increased faster than the gross income received. Practically all the farmers who operated investments of $7500 or larger were owners. Of 218 farmers who came in this class, 215 or 98.5 percent were owners. Likewise, of 220 farmers having investments of less than $2500, 210 or 95.5 percent were tenants. Since tenants had no equities in the lands they operated, it is to be expected that their investments will not increase as rapidly in relation to gross incomes as those of owners. Even when the value of land and buildings is added to the tenants' investment the total does not rise as rapidly as that of owners, because of the fact that permanent improvements on rented farms are usually of poorer quality than those on owned farms. Yet, full owners farmed less exploitatively than tenants in the larger scale farming groups. The conservatism of the owner farmers in comparison with tenants is witnessed by the larger gross incomes for tenants than for owners for each investment class. However, for each group as a whole, it is found that owners received larger gross incomes than tenants. No doubt, a large part of this is due to a greater relative emphasis upon cash crops on the part of renting

than of owning farmers. It seems reasonable that owners would be more likely to grow more home consumption crops that are never turned into cash than tenants. Also, tenants would be likely to seed a larger share of their land to grain than owners who can either turn their crops into livestock feed or in the case of legumes into soil improvement and erosion prevention crops than tenants. In other words, the tenant's motive in farming is to convert everything he produces into money while owners may wish to build up their land. This difference in purpose would have a marked effect upon the external proceeds from farming as shown between the two classes of farmers.[6]

5. Farm Operation and Family Living as Competing Factors.

In preceding paragraphs it has been stated that tenant farmers are likely to tend toward exploitative farming more than owners. It has also been said that during the depression, at least, to swell the gross income much beyond the average has been possible by increasing operating costs relative to family living. The percentages shown in Table 9 tend to support these contentions for owner operators and for the larger scale tenant farmers. The reason for this is that living costs do not necessarily rise relatively as much for families of approximately the same size as do opera-

[6] See J. T. Sanders, Requirements for a Sustained Prosperous American Agriculture, Okla. Agric. Exper. Sta. (mimeographed), June 8, 1934, p. 14. In speaking on the problem of farm surpluses, Sanders develops the thesis that it is the tenant farmer who is largely responsible for the existing surplus of cash crops in this country. This contention is supported in a limited degree by the data shown in Table 8. He suggests that an encouragement of farm ownership for more of the people now on farms would be a valuable contribution toward the solution of the farm surplus problem from a long-time point of view, because relatively larger amounts of the produce grown would be consumed on the farms where it is grown than is now the case. The figures given here seem to substantiate this proposition. Especially does this seem true for the upper half of the tenants in the winter wheat section of Oklahoma.

tion costs of farm operating units of greatly varying sizes. After the farmer has produced enough so that his family may live fairly well, he can probably afford to increase his production costs up to the point at which his input and output are exactly equal in order to realize the maximum gross return from his labor, machinery, and other production agents which otherwise would be idle. Such a practice is not in accord with orthodox economic theory, but the condition of the farmer in 1932-33 was much the same as that of the proverbial drowning man grasping at straws.[7] This, however, will not cure the farm surplus problem, and has very likely been an important source of aggravation for the deplorable state in which agriculture has found itself for several years past. It is simply an expedient which the individual farmer may feel forced to adopt for self-preservation.

Table 9. Division of Gross Income Between Farm Operation and Family Living Expenditures for Different Tenure Classes of Operators According to Size of Farm Investment Shown in Percentages

Size of farm investment	All farmers		Owners		Tenants	
	Operation	Living	Operation	Living	Operation	Living
Total	52.2	47.8	52.2	47.8	52.3	47.7
Up to $2499	50.1	49.9	33.6	66.4	50.6	49.4
$2500-4999	54.8	45.3	49.2	50.8	56.7	43.3
$5000-7499	46.0	54.0	45.9	54.1	46.3	53.7
$7500-9999	51.8	48.2	52.0	48.0	44.6	55.4
$10,000 and over	54.3	45.7	53.8	46.2	66.1	33.9

In the same way that farm operation costs seem to take proportionately a greater share of the gross income as the size of the farm investment is

[7] Neo-Classical economists, following a cost of production approach, would say that the farmer should seek to establish the limits of his production at the point of lowest average total unit cost. However, when facing desperation, the farmer will produce as long as he can do so without incurring actual loss in his prime costs in the hope of being able to meet at least a part of his fixed costs.

increased, it follows that there is a tendency for farm operation to consume greater proportionate shares of the gross income as the gross income itself is increased. This is because agriculture is an industry which operates under the principle of increasing costs. With a given set of equipment and a fixed amount of land, and especially with falling prices the gross income of farmers can be increased only by incurring increasing costs. The exceptions to this rule are of only minor importance since they occurred in gross income groups in which the number of farmers was too small to be wholly representative. The data in Table 10 show the division of the gross income between operation and living expenditures for variable gross income groups.

Table 10. Division of Gross Income Between Farm Operation and Family Living Expenditures Shown in Percentages by Gross Income Groups

Gross income groups	All farmers		Owners		Tenants	
	Operation	Living	Operation	Living	Operation	Living
Total	52.2	47.8	52.2	47.8	52.3	47.7
Up to $749	42.0	58.0	44.6	55.4	39.7	60.3
$750-1499	50.1	49.9	47.6	52.4	52.8	47.2
$1500-2249	54.5	45.5	53.4	46.6	56.0	44.0
$2250-2999	53.8	46.2	50.4	49.6	61.8	38.2
$3000 and over	58.9	41.1	60.0	40.0	53.9	46.1

As Tables 9 and 10 show, the 1932-33 period was one in which increased gross incomes at a lower total unit cost could not occur in farming, because it was a period of falling prices for the products of the farm and in which the fixed costs could not be adjusted as rapidly as the prices fell. As long as the farmer could stay in business, he was forced to strain every effort to swell his current cash revenues to the maximum, whether he had to face a situation of increasing costs or not, in order that he might be able to provide the physical necessities of life for his family and possibly pay his taxes and interest.

6. Sources of Incomes of Farm Families.

The sources of income for farmers have been important problems during the depression period. From all standpoints, the farmer's greatest difficulty has been that of finding outlets for surplus labor and new or undrained reservoirs from which he could supplement the small cash return possible for him to receive from his strictly farming enterprises. On an average, the farmers of the group studied derived 30 percent of their total gross receipts from sources other than the principal enterprises on the farm units they operated, as an examination of Table 11 will show.

Table 11. Percentage Distribution of Total Gross Farm and Family Receipts from Various Sources by Tenure Status of Operators in 1932-33

Sources of income	Percent of income derived from each source		
	All farmers	Owners	Tenants
Total	100.0	100.0	100.0
Wheat	31.0	29.9	32.8
Other crops	6.3	4.0	9.8
Livestock and products	32.7	34.8	29.5
Wages off farm	5.1	3.9	6.8
All other income	24.9	27.4	21.1

These figures, so far as they may be truly typical of agriculture in the north central winter wheat area of Oklahoma, show that owner farmers are less dependent upon wheat as their principal source of income than are other farmers, and that they have tended to put greater emphasis upon livestock than renting and partially renting farmers. If only full owners were counted, it would be seen that they derived only 23.9 percent of their gross income from wheat and 36.9 percent from livestock and livestock products as compared with 32.8 percent and 29.5 percent respectively for

tenants. This is to be expected, because few rented farms and few tenants are as well equipped for taking care of livestock as owners. Owner operators have a greater diversity of outside resources than other types of farmers. Again, this is to be expected. But it probably suggests a point where agricultural organization will require some revision in the future. This may be accomplished through education of all classes of farmers and by modification of lease contracts so that tenants will not be bound as closely as they now are to the single cash crop.

By comparing Tables 11 and 3, it may be observed that 43.2 percent of the crop land was planted to wheat while only 31 percent of the gross receipts of farmers came from wheat. Also, 23.6 percent of the crop land farmed was planted to corn, other feed grains, cotton and all other crops, while only 6.3 percent of the gross cash income was received from these sources. Pastures took up 33.2 percent of the land used and livestock and livestock products produced 32.7 percent of the total proceeds from the year's business. There were several reasons for this. First, prices for crops were relatively lower than those of livestock products, particularly in the case of the farmers studied who for their livestock enterprises leaned heavily toward dairying.[8] Second, much of the grain and other crops produced were consumed on the farms and did not go directly into cash. Third, the cash value of feeds used on these farms was accounted primarily to sales of livestock and livestock products. Because of better prices for dairy products during 1932-33 than those received for grains, the farmer found feeding grain to his dairy herd more profitable than marketing it directly for two reasons: First, as feed it was cheap and

[8]It will be remembered that the slump in the prices of dairy products which took place in the late summer and early autumn of 1933 did not affect this study which was completed in June of 1933.

nutritious, and the prices of products from the dairy cow were comparatively high. Second, this was a method of deriving a little pay for his labor which was almost a free goods in any other market. In any case the farmer's problem was to seek continually for a new combination of his productive factors in a period of rapid transition in order to avoid the danger of utter extinction under the calamitous pressure of the economic disruption which prevailed.

CHAPTER IV

ANALYSIS OF FAMILY LIVING EXPENDITURES

1. Net Spendable Incomes of Farm Families.

The gross income figures used in this study include the total receipts of farmers from all sources whatever with no deductions of any kind. The costs of operating the farm business, when taken out of the gross income, leave the net spendable income from which basis the farmers' standard of living is to be studied.[1] The net spendable income, when thus derived, equals the sum of all moneys spent for family living purposes. Since the net spendable income and family living expenditures balance against each other, it will be convenient to discuss family living in terms of expenditures primarily. The farmers' standard of living, measured by monetary terms, is determined largely by the general condition of the farm enterprise as a principal limiting factor, which is the chief justification for any mention of farm operation costs in this study.

Table 12 shows the average net spendable income and the number of farmers of different tenure groups as they fall within various income classes. In connection with Table 9 it is indicated that, for the most part, owner operators use relatively less of their current gross incomes for farm operation than tenants. But it should be recalled that tenant operators farm somewhat more extensively than owner farmers. On the whole,

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[1] It is to be understood that this study in no way proposes to delve into the insoluble problem of farm cost analysis. The operation costs referred to here are simply the totals of what the farmers said they spent in operating their farms. Taken another way, they are the residues that are left when family living expenditures are taken out of the gross income and vice versa. At best these are only rough divisions and they are not regarded as having penny accuracy.

the data show that owner farmers have somewhat higher average net spendable incomes than tenants. With the exception of those farmers with net spendable incomes of less than $250, and those of over $1000, tenants are found to have incomes that are slightly greater than those of owners. However, it is to be noted that 86.4 percent of the tenants as compared with 71.2 percent of the owner operators receive net spendable incomes averaging $50 per month or less, and only 13.6 percent of the tenants as compared with 28.8 percent of the owners receive as much as $70 per month. Only 8.1 percent of the owner families receive less than $250 per year in contrast with 15.2 percent of the tenants. Since these figures refer to cash incomes only, it is improbable that tenants of the poorer class suffer from actual want to a much greater degree than the poorer classes of owners, but tenants are merely more numerous than owners in proportion to the total number of farmers living at or very near a bare subsistence level.

Table 12. Average Net Spendable Income of and Percentage Distribution of 562 Farm Families According to Net Spendable Income Groups in 1932-33

Net spendable income groups	Average net spendable income			Percent of farmers in income group		
	All farmers	Owners	Tenants	All farmers	Owners	Tenants
Total	$ 610	$ 703	$ 507	100.0	100.0	100.0
Up to $249	189	203	181	11.4	8.1	15.2
$250 to $499	375	372	377	42.2	35.2	50.0
$500 to $749	612	612	613	24.7	27.9	21.2
$750 to $999	848	844	856	9.4	11.7	6.8
$1000 and over	1624	1671	1500	12.3	17.1	6.8

As may be expected, tenant farmers tend to gravitate more heavily toward the lower extreme economically than either of the two classes of owners, while owners tend to be able to reach the upper economic levels more frequently than tenants. In the north central wheat area of Oklahoma, especially in

Alfalfa County, it is rather unusual to find stranded families, that is, those who are not able to make a living without assistance from the outside. Casual conversation with the farmers of the area leads to the belief that under the conditions of large scale wheat farming, it was almost impossible for new families unable to maintain themselves to find a foothold. Seldom are they allowed to occupy otherwise vacant tenant houses because the land owners do not want to assume any responsibility whatever for them. Where such families exist, they are generally the decadent ruins of once fairly substantial families which have disintegrated, either because of sickness and deaths, old age, or psycho-social disruption. Under a system in which the competition for land is as great as in this rather specialized farming area, it seems doubtful that what is generally thought of as subsistence farm families could survive for any great length of time. This is only a secondary observation not covered by statistical proof, but it seems to explain why extreme chronic abject poverty did not exist except under rather restricted circumstances.

In Table 13, the net spendable income is shown by groups, as in Table 12, for farmers operating investment units of different sizes. If, on an average, the rate of return on the investment is about the same for different farmers, it is to be expected that those with large investments should be able to maintain a better standard of living than those with small investments. Under the conditions of 1932-33, it is not always possible to determine what would be an optimum sized investment for a farmer to try to operate.

An examination of the data in Table 13 will show that there is comparatively little difference in the absolute size of net spendable incomes of farmers with small and intermediate sized investments. The bulk of all

farmers had investments of less than $10,000 and net spendable incomes of from $250 to $750. The average net spendable income was $610 ± $267 for all farmers.[2] In other words, the average of $610 is fairly typical of the family cash expenditure for the whole group. This means that, under the conditions which prevailed in 1932-33, it is primarily the more exploitative types of farmers who are able to swell their net incomes to an advantage by extending their farm operations.

Table 13. Average Net Spendable Income of 562 Farm Families According to Size of Investments Operated in 1932-33

Size of investment	All income groups (average)	Average net spendable incomes of farmers in groups of				
		Up to $249	$250-$499	$500-$749	$750-$999	$1000 and over
Total	$610	$189	$375	$612	$848	$1624
Up to $2499	424	182	374	606	872	1139
$2500-4999	550	190	383	616	803	1270
$5000-7499	666	212	370	616	893	1693
$7500-9999	561	210	352	614	831	1307
$10,000 and over	927	---	391	615	853	1815
	Number of Farms in Each Group*					
Total	562	64	237	139	53	69
Up to $2499	220	59	128	38	7	8
$2500-4999	69	12	21	22	8	6
$5000-7499	55	4	23	15	5	8
$7500-9999	73	9	26	23	8	7
$10,000 and over	145	--	39	41	25	40

*Shown in actual numbers because the totals in the extreme classes are so small that in a cross tabulation percentages would have little significance.

Although the data show that the average net income per farm tends to rise as the size of the investment increases, the handicap of the law of

[2] For the method of calculating the standard error of an average or arithmetic mean, see Chaddock, op. cit., pp. 160-164. See also Mordecai Ezekiel, Methods of Correlation Analysis. New York: John Wiley & Sons, 1930, pp. 17-28.

diminishing returns applies to most of the farmers in the study. The calculation of the coefficient of correlation between size of investment and net income gives $r = + .498 \pm .011$. This shows a direct relationship between the two factors, but when this quantity is converted to a coefficient of determination, it may be seen that only 24.9 percent of the variations in the net incomes of the farmers in the study were actually attributable directly to differences in the sizes of investments within the range of the data employed.

2. Size of Family as a Factor.

Differences in the sizes of families are always potential sources of difficulty in studying standards of living. Table 14 is so constructed as to take care of this point as far as possible. The families have been divided by tenure groups and arranged according to size in "ammain units." Then the average net spendable income per "ammain unit" has been found. This raises the old issue as to what is the most economically sized family. Obviously, these data do not throw much light upon the question partly because of the stringency of economic conditions existing in 1932-33. In general the data show, except for two large owner families containing 8.3 "ammain units" each, that the size of the net spendable income per unit declines progressively in all tenure classes as the size of families increases. In each tenure group taken separately there is a progressive decline in the spendable income per "ammain unit" as the size of the family increases. From this it follows that, at least for the period of 1932-33, the larger families are more severely pressed than the smaller in attempting to balance their family living budgets.

Table 14. Net Spendable Income per "Ammain Unit" Among 562 Farm Families of Different Tenure Status According to the Number of Ammains per Family*

Size of family in ammain units	Net spendable income per ammain unit		
	All farmers	Owners	Tenants
Total	**$214**	**$248**	**$176**
Up to 1.9	365	432	278
2 to 3.9	209	231	185
4 to 5.9	166	200	126
6 to 7.9	95	128	71
8 to 9.9	105	105	---
	Percent of Families of Given Size		
Total	**100.0**	**100.0**	**100.0**
Up to 1.9	27.6	30.8	23.9
2 to 3.9	53.7	50.7	57.2
4 to 5.9	16.5	16.4	16.7
6 to 7.9	1.8	1.4	2.2
8 to 9.9	.4	.7	---

*The "ammain scale" used here is that employed by Edgar Sydenstricker and Wilford I. King in "A Method of Classifying Families According to Incomes in Studies of Disease Prevalence," U. S. Public Health Reports, Washington: Government Printing Office, Reprint No. 623, Nov. 26, 1930, p. 18. It is as follows:

Age group	Male	Age group	Female
Under 2	0.2	Under 2	.2
2 to 4	.3	2 to 4	.3
5 to 9	.4	5 to 9	.4
10 to 12	.5	10 to 12	.5
13	.6	13 to 14	.6
14-15	.7	15 to 18	.7
16	.8	19 to 36	.8
17 to 18	.9	37 to 64	.7
19 to 35	1.0	65 and over	.6
36 to 55	.9		
56 to 75	.8		
75 and over	.7		

The value of a scale of this kind is that it permits the standardization of the family by age and sex according to food requirements. It is doubtful if there can be such a standardization for clothing, advancement, and many other types of expenditures that are governed more largely by personal choice than by physiological necessity.

Carle C. Zimmerman has developed an "Adult Male Equivalent" scale (Univ. Minn. Agric. Exper. Sta. Bulls. 234, 246, 253, and 255) which is based on food consumption only. For that reason it was not used as a method of standardization of families in this study. Evelyn C. Tough and E. L. Kirkpatrick have developed a scale called the "cost consumption unit," (see their paper, "Scales for Measuring the Standard of Living," Jour. Amer. Stat. Ass'n., March, 1933, pp. 55-63), which is probably more exact than either the King-Sydenstricker or the Zimmerman scales. However, the Tough-Kirkpatrick scale is more complicated and is less manageable when dealing with survey data than that used here.

In Table 15 the study of the relation between size of family and the net spendable income per ammain unit is carried a step further than in the preceding table. In Table 14 there is no purely mechanical division of the data that should be interpreted as necessarily limiting the net spendable income per ammain unit, as the families are not grouped by income. In Table 15, the division of the families into income groups of itself would tend to cause the net spendable income per ammain unit to decline as the size of families increases except for the 562 families as a whole and for those with net spendable incomes of $1000 or more upon which no upper limits are placed. In spite of this, the same tendency is equally as uniform where maximum limits on income are not applied as for those where they are operative. This goes to confirm the statement that the size of the family is a factor of primary importance to be reckoned with in adjusting the living budgets of farmers to total family needs.

Table 15. Net Spendable Income per "Ammain Unit" Among 562 Farm Families of Different Net Income Groups According to the Number of Ammains per Family

Size of family in "ammain" units	All families	Net spendable income per ammain for net income group				
		Up to $249	$250-$499	$500 to $749	$750-$999	$1000 and up
Total	$214	$ 77	$137	$211	$242	$535
Up to 1.9	385	123	256	382	505	1033
2 to 3.9	209	75	136	210	295	486
4 to 5.9	166	40	84	129	181	445
6 to 7.9	95	29	58	87	157	292
8 to 9.9	105	---	---	---	105	---
	Percent of Families of Income Group*					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Up to 1.9	27.6	48.4	27.0	24.5	17.0	24.6
2 to 3.9	53.7	35.9	57.4	59.0	47.2	52.2
4 to 5.9	16.5	14.1	13.1	15.8	30.2	21.7
6 to 7.9	1.8	1.6	2.5	.7	1.8	1.5
8 to 9.9	.4	---	---	---	3.8	---

*For basal figures see Table 13. Except for the two middle columns of this part of the table total number of families is so small that the percentages have mostly a nominal significance.

In the study of the relation between the net spendable income per "ammain unit" and the size of families, the calculation gives a negative correlation coefficient of r = -.561 ± .029. This is simply a measure of the relationship between these two factors in this particular study, and it shows that the relationship is statistically significant. There can be no doubt that the number of persons is an important factor in determining the well-being of families in moderate and poor circumstances, which characterization would apply to practically all the families studied here. If the correlation coefficient found be reduced to a coefficient of determination, which is done by squaring the quantity .561, it will be found that approximately 31.5 percent of the variation in "ammain" consumption was accounted for by variations in the size of the families. From this it is obvious that the evidences indicate that there is a fallacy in the theory of economic advantages in big families even for the farm population. A large family has many compensating features, but the point here is that its rewards frequently must be found elsewhere than in an enlarged bank account. The data of this study suggest a probability that when the size of a family exceeds four "ammains" there is a likelihood that the net spendable income per "ammain" will be below the average for the group of which it is a part. This raises a question on which more study must be done before a reliable conclusion can be reached.

3. Tenure Status Related to Living Expenditures.

In Table 16 the average expenditure per family for various classes of items is shown for owners and tenants. These figures show that in absolute amounts available for living purposes, owners are substantially better off on an average than tenants. It is suggested in the discussion of Table 9 that although the extensive farmer has higher costs of production

in proportion to his gross return than conservative farmers, this is a means of raising the absolute scale of living for the more venturesome farmer, because it increases the total cash available for living expenditures. In this respect, tenants do not differ greatly from owners, except that relatively more owners than tenants are able to raise their net spendable incomes above what would seem to be the near poverty level. As a result, when the two groups are studied comparatively, it is found that on an average, tenant families spend less than owner families in absolute amounts for every class of wants. They not only spend less as families than owners but also on an "ammain unit" basis as is shown in Table 16.

Table 16. Average Cash Expenditure for Living Among 562 Farm Families of Different Tenure Status by Types of Expenditures

Type of expenditure	Average expenditure per family		
	All farmers	Owners	Tenants
Total*	$610	$703	$507
Food	139	144	133
Household operation	32	41	22
Clothing	69	73	64
Health	42	59	35
Advancement	38	49	24
Investment	187	233	135
Automobile	75	83	66
Personal and miscellaneous	29	30	28

*The sums of the itemized expenditures in this table do not necessarily check with the totals because minor fractions of dollars were not counted in any case throughout the computations.

In Table 17 the percentage distribution of the net spendable income among different classes of expenditures is shown for farm families of the two tenure groups. The advantage of this table over Table 16 is that it shows the relative importance of each type of expenditure in the total

family budget for each class of farmers. It may be seen from a study of the data that food, clothing, automobiles, and miscellaneous expenditures, which are many small indefinable items, are the only types for which tenant farmers spend relatively more of their net incomes than owners. Health, advancement, household operation, and investment expenditures are relatively more important to owning farmers as a whole than to tenants. It is a matter of common agreement among rural sociologists that the evidences indicate there is a principle that as the social and economic position of people rises, there is a greater interest, as shown by where they put their money, in things calculated to be for cultural improvement and of permanent value. On the other hand, as social status decreases, the satisfaction of present physical and sensual wants seems to be an objective of increasing relative importance. No doubt, many tenants are almost sure to become owners, and many others prefer to be large-scale operators, using their surplus funds in production rather than in payment of interest, taxes and depreciation charges. These farmers are as likely to show a desire for cultural advancement and economic security as anybody. It is the inert, listless, irresponsible type of tenant farmer who is responsible for most of what are considered the "black spots" in the problem of farm tenancy.

Table 17. Percentage Distribution of Cash Living Expenditures for 562 Farm Families

Type of expenditure	Percent of net spendable income spent by		
	All farmers	Owners	Tenants
Total	100.0	100.0	100.0
Food	22.8	20.6	26.3
Household operation	5.3	5.9	4.4
Clothing	11.2	10.4	12.6
Health	6.9	6.9	7.0
Advancement	6.2	7.0	4.8
Investment	30.6	33.1	26.5
Automobile	12.3	11.8	13.0
Personal and miscellaneous	4.7	4.3	5.4

4. Size of Investment Related to Living Expenditures.

Under ordinary conditions it may be expected that the size of the investment from which current revenues are produced bear a close relationship to the characteristics of the family living budget. However, for the families included here, a study of Table 18 shows that the data are too variable to define a definite tendency with respect to any one set of averages given. The same thing may be observed regarding the percentage distribution of the net spendable income among the different classes of items in the family budget which is shown in Table 19. What is generally believed is that the larger the investment owned, or the higher the economic status of a family, the smaller is the proportion of its net income spent for food and basic physiological necessities and the greater is that out into savings, advancement, and the satisfaction of cultural wants. These data show no clearly uniform tendency in reference to this point, although they do suggest that it is operative to some extent.

Table 18. Average Expenditure for Classes of Items of Family Living for Families Having Different Sized Investments Among 562 Farmers

Type of expenditure	All farmers	Average cash expenditure per family for farmers having investments of				
		Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and up
Total	$610	$424	$550	$666	$561	$927
Food	139	129	129	141	135	160
Household operation	32	17	36	29	34	54
Clothing	69	58	67	61	72	88
Health	42	28	33	43	41	70
Advancement	38	19	35	36	27	72
Investment	166	90	147	257	147	346
Automobile	75	60	74	72	75	100
Personal and miscellaneous	29	23	29	27	30	37

Table 19. Percentage Distribution of Family Living Expenditures Among Various Classes of Expenditures for 562 Farmers Having Investments of Different Sizes

Type of expenditure	All farmers	Percentage distribution of cash living expenditures for farmers having investments of				
		Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and up
Total	100.0	100.0	100.0	100.0	100.0	100.0
Food	22.8	30.5	23.5	21.1	24.1	17.3
Household operation	5.3	4.1	6.5	4.4	6.1	5.8
Clothing	11.2	13.7	12.1	9.2	12.6	9.5
Health	6.9	6.5	6.0	6.4	7.3	7.5
Advancement	6.2	4.5	6.4	5.4	4.9	7.8
Investment	30.6	21.2	26.7	38.5	26.3	37.3
Automobile	12.3	14.0	13.5	10.9	13.4	10.8
Personal and miscellaneous	4.7	5.5	5.3	4.1	5.3	4.0

There is significance in the fact that the figures in these two tables are rather erratic. It corroborates the previously stated contentions that the possession of land, the ownership of capital, and a large production outlay during a depression period are poor indications of economic security. It can be seen that there are contrasts between those who had much and those owning little, but it is difficult to determine which enjoys the greater comparative advantage under conditions as they were during the crop year 1932-33.

5. Income Related to Living Expenditures.

In spite of the operation of the law of diminishing returns in agriculture during the depression years, the larger scale farmers have had greater absolute amounts to spend for living purposes than those who were farming on a small scale. This tendency has been pointed out several times in preceding statements in this discussion. It seems to be confirmed again by the data of Table 20. While the figures in Table 20 show that investment absorbs progressively larger amounts of the total

budgets as the incomes of families increase, it is true that the expenditures for practically all other wants are also greater in the higher income brackets. Although the absolute spread in incomes among the farm population is not excessively great, it is the relative difference between the upper and the lower strata that is important. It is significant that while the total net spendable income of the upper extreme in this group of farmers is almost seven times as great as that of the lower extreme, the health, advancement, and investment expenditures of the uppermost group are the only items of expenditure which increased in proportions comparable to differences in their ability to pay as contrasted with the lower extreme group.

Table 20. Average Cash Expenditures for Family Living for Different Gross Income Groups by Various Items of the Living Budgets of 562 Farm Families

Type of expenditure	All farmers	Average family living expenditure for farm families in gross income groups of				
		Up to $749	$750 to $1499	$1500 to $2249	$2250 to $2999	$3000 and up
Total	$810	$297	$521	$822	$1178	$1995
Food	139	115	139	152	178	208
Household operation	52	17	31	44	62	73
Clothing	69	44	66	87	111	135
Health	42	16	36	71	65	150
Advancement	38	16	33	58	64	1[illegible]6
Investment	186	31	119	261	515	1140
Automobile	75	39	71	113	140	129
Personal and miscellaneous	29	19	27	36	63	52

From a sociological point of view this is a very significant phenomenon. It indicates that the poorer classes of people are severely cramped with respect to the satisfaction of wants which affect the quality, welfare, and security of the population. It also shows that with increasing wealth the urges or drives to maintain health, to gain the social and

economic advantages of education, and to provide security for old age are liberated and given more freedom of range in their satisfaction. Poverty in the early years of adult life is the starting point of a vicious circle. It deprives the family of the advantages of education and improvement of status; it makes neglect of health inevitable; it limits, and often acutely curtails, productive power; and it makes saving for old age impossible, so that when the individual becomes too old to work and support himself by his current earnings, he is thrown into the lap of charity, either of his children or other relatives, benevolent organizations, or the state. Any program of agricultural reconstruction which does not include some provision calculated to stimulate savings, to promote health, and to raise the standard of education among the farmers will fall far short of its highest opportunities.

In Table 21 the relative importance of each class of expenditures in terms of its proportion of the total family budget is shown for groups of varying sizes of gross incomes. It is significant that in passing from the lowest to the highest income group, there are definite noticeable tendencies. First, the relative amounts spent for food decline progressively. Second, the relative amounts spent for clothing decline but not as greatly as the expenditures for food. Third, the expenditures for household operation increase relatively on the whole, but not consistently throughout. Fourth, health expenditures increase relatively to some extent but not consistently in all income categories. Fifth, the greatest relative increase in advancement is in the intermediate income group. Probably this was due largely to differences in the age composition of families and the proportions of children of school age in different income groups. Sixth, the relative importance of personal, including miscellaneous expend-

itures, declines. Again the age composition of the families may have been the principal determining factor rather than income. Seventh, the relative amount spent for maintaining the family automobile remains virtually constant, except that in the highest income group it drops to about half the average relative amount for all other groups. Eighth, as income increases the amounts spent for investment increase both relatively and absolutely.

Table 21. Percentage Distribution of Cash Expenditures for Families Living for Different Gross Income Groups by Various Items of the Living Budgets of 562 Farm Families

Type of expenditure	All families	Percentage each expenditure is of total family living expenditures for farmers in gross income groups of				
		Up to $749	$759 to $1499	$1500 to $2249	$2250 to $2999	$3000 and up
Total	100.0	100.0	100.0	100.0	100.0	100.0
Food	22.8	38.7	26.6	18.5	15.2	10.5
Household operation	5.3	5.6	5.9	5.3	5.3	3.6
Clothing	11.2	14.8	12.7	10.6	9.4	6.8
Health	6.9	5.5	6.7	8.6	4.6	7.5
Advancement	6.2	5.4	6.3	7.1	5.4	5.4
Investment	30.6	10.5	23.0	31.6	43.7	57.1
Automobile	12.3	13.1	13.6	13.7	11.9	6.5
Personal and miscellaneous	4.7	6.4	5.2	4.4	4.5	2.6

Another significant observation which may be drawn from Table 21 is that in the group with gross incomes of $749 or less, three elemental wants, food, household operation, and clothing, consumed 59.1 percent of the total living expenditure; investment took up 10.5 percent; and all other expenditures claimed 30.4 percent. In the group having gross incomes of $3000 or more, the same classifications of expenditures respectively accounts for 20.9 percent, 57.1 percent, and 12 percent of the total living budget. This shows that the poorer farmers spend by far the most of their time

wrestling with the problem of providing their families with the bare necessities of life. From this it is easy to gain an idea of what ultimate results may be expected to come from launching American agriculture, or any considerable proportion of American farmers upon a large scale program of subsistence farming. It would be the surest way to build up a semi-dependent class of farmers that could be devised for this country.

In connection with Tables 17 and 18 it is shown that sorting the families according to size of investment and tenure status gives only a rough and imperfect picture of the actual tendencies regarding the nature of family living expenditures. Neither tenure status nor size of investment owned is a good index of the ability of farmers to pay, which must be found in terms of current available income alone. It is true that income for any one year is an inadequate basis from which to judge the long-time characteristics of a given family. In a year representing a disrupted condition of agriculture, such as 1932-33, it is not uncommon to find once fairly substantial farmers who are virtually bankrupt. In a few cases former owners have been found living as tenants on the identical farms they had once owned almost free of debt. But for a group of farmers as a whole, the income for a given year gives about the best index of their budgetary adjustments that has been found.

6. Size of Family Related to Living Expenditures.

The influence of the size of families upon the average family expenditure for different items in the living budget is shown in Table 22. It is to be expected that the average expenditure for food rises as the size of families increases because the total food requirement is directly proportional to the number of people of similar age and sex to be fed. For

household operation the opposite tendency appears. The costs of providing heat, light, housing space, and furniture for a household composed of only the husband and wife are nearly as great as in a family having two or three young children. In other words, the minimum of essentials for keeping house does not rise as much in proportion to the size of families as does the total food requirement. Beds, lamps, the heating apparatus and other household equipment can be shared among the several members of the family while the same food cannot be used by more than one person. Likewise clothing, health costs, automobile expense, advancement, and personal and miscellaneous expenditures rise generally on an average per family as the size of families increases. Investment expenditures rise in going from the small to the medium-sized families, and become lower for the larger families. This tendency means that extra large families have to spend so much of their current incomes for the gratification of immediate wants which cannot be postponed that there is comparatively little left to lay aside for future wants.

Table 22. Average Living Expenditures by Families of Different Sizes According to Type of Expenditure for 562 Farm Families

Type of expenditure	All farmers	Average living expenditure for families of different size in "ammain" units				
		Up to 1.9	2 to 3.9	4 to 5.9	6 to 7.9	8 to 9.9
Total	$610	$552	$585	$785	$621	$870
Food	139	121	139	163	100	250
Household operation	32	37	32	31	10	23
Clothing	69	42	71	100	105	180
Health	42	26	45	55	91	89
Advancement	38	25	38	56	56	62
Investment	186	204	155	270	80	144
Automobile	75	70	77	77	58	92
Personal and miscellaneous	29	27	28	33	31	30

As the data in Tables 14 and 15 show, a highly important factor determining the ease with which farm family living can be provided is the absolute size of the family itself. This should not be interpreted as an implication that the size of farm families should be restricted artificially, but rather to show something of the debt which society in general owes the farm family as the chief source of the population of the country, especially of the labor supply of the cities. It is known that voluntary limitation of the size of families is an actual fact among various strata of the national population, and it may be that the economic factor is a powerful influence in this respect. In fact, restriction of the size of families in cities is generally thought to be a method of preserving a given scale of living by middle class salaried professional and business people of limited incomes. It may also be operative among the rich people who want to preserve their large fortunes concentrated in as few hands as possible. Large families having equal inheritance for all children would tend to disintegrate and decentralize huge accumulations of wealth. An important question now agitating the minds of population students generally is, does the trend of economic events indicate that the farmer will be forced to adopt the same expedient as a means of self-preservation?

In Table 23 the percentage distribution of family living expenditures by different sized families among various classes of wants is given. In contrast with the preceding table, it may be noticed that while the average actual amounts spent for the more indispensable wants show a rather uniform tendency to rise as the size of families increases, this is not so uniformly true for relative amounts. For example, the proportion of the total living budget spent for food fluctuates mildly as the size of families increases. The relative amounts spent for house-

hold operation decrease, with only chance exceptions, while those spent for clothing rise consistently as the size of families increases. Health and advancement expenditures show wavering tendencies to rise as the size of families increases. Investment and automobile expenditures show erratic tendencies to decline relatively, and personal and miscellaneous expenditures seem to remain relatively constant, in most cases at least, as the size of families becomes greater.

Table 23. Percentage Distribution of Living Expenditures by Families of Different Sizes According to Types of Expenditures by 562 Farm Families

Type of expenditure	All farmers	Percent of total family living spent by families of different size in "ammain units"				
		Up to 1.9	2 to 3.9	4 to 5.9	6 to 7.9	8 to 9.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Food	22.8	21.9	23.8	20.7	30.7	28.7
Household operation	5.3	6.7	5.4	3.9	1.6	2.6
Clothing	11.2	7.6	12.1	12.7	16.8	20.7
Health	7.0	4.7	7.7	7.0	14.7	10.2
Advancement	6.2	4.5	6.4	7.1	9.1	7.2
Investment	30.5	37.0	26.6	34.4	12.8	16.6
Automobile	12.3	12.7	13.2	9.9	9.3	10.6
Personal and miscellaneous	4.7	4.9	4.8	4.3	5.0	3.4

Since it has been shown that the average absolute size of various types of expenditures tends to be proportional to the size of families in most cases, and that where such is not the case there seem to be adequate plausible explanations for it, the deduction follows that the index of size of families used here is not highly correlated with net spendable income. Otherwise, the relative expenditures should bear the same or a similar relation to them as the absolute average expenditures. Again this confirms in part the previous contention that increased size of family is not necessarily associated with increased economic produc-

tivity for the farmer as has long been popularly maintained. Certainly it is not so when the saturation point in agricultural production has been passed already.

7. Investment and Saving Habits of Farm Families.

From a long-time viewpoint the welfare of the family is closely associated with its saving and investment habits. During the past fifteen or twenty years the farmer has been in a precarious situation relative to his investments. Money saved and deposited in banks has been unsafe in many sections of the country. Stock market speculation is always dangerous for the farmer both because he is a novice and because he generally has a comparatively small surplus with which to protect his margin when violent reactions occur. Investment in farm land is unfruitful for farmers during a period of declining purchasing power such as has characterized a greater part of the post-war era. Investment in bonds is usually uneconomical because the rate of return is so small that relatively large denominations must be purchased in order to bring him an interest return that is worth while, and his investments are too small to be economical. More directly stated, the farmer faces a problem of uncertainty in his investment program.

One of the outstanding aspects of the farmer's investment, one in which it is closely related to his standard of living, is that his business and living problems are more or less inseparable. Furthermore, owing to the relatively large amount of land necessary for the farmer to operate in order to both make a living and keep his business intact, his taxes, interest, and depreciation charges are relatively high. It is easy for a farmer to find himself "land poor," particularly in a long

period of declining prices. Also, the turnover in the farm business because of the slow biological processes upon which it is dependent, is restricted to one time annually at most. This again is a factor which necessarily increases the size of the farm investment, and the fixed charges, relative to the annual gross return.

In Table 24, a brief resume of the nature of the investment payments made by the farmers included in this study is given. From this table it is easy to see that the investment payments of these farmers during the year of the study are absorbed almost entirely by real estate properties and life insurance. While the payment of life insurance premiums occupy a fairly important place among the investment expenditures, it is smaller than might be expected relative to the total family budget. For owners life insurance payments comprise 3.8 percent of the total family budget, and for tenants 4.4 percent. Another feature of the life insurance carried is that it is concentrated primarily into the hands of the upper classes of farmers in each tenure group. That is, life insurance policies are poorly distributed among the rank and file of the farm population. Also, the fraternal insurance policy remains in a rather favorable position among farmers because of the low rates at which such insurance can be had. Considering the greater demonstrable security of life insurance in comparison with many other forms of investment, it seems that the farmer would be safer in his investments if he resorted to life insurance as a method of saving and investment more often in the future than has been his wont in the past. However, many of the powerful legal reserve insurance companies deliberately ignore the farmer because of the uncertain and seasonal nature of his income, preferring salaried and wage earning clients in the cities and towns.

Table 24. Percentage Distribution of Investment Expenditures of 562 Farm Families of Different Tenure Status by Type of Investment for 1932-33

Type of investment	Percent of total investment expenditure		
	All farmers	Owners	Tenants
Total	100.0	100.0	100.0
Life insurance	13.5	11.8	16.8
Securities, personal property, reinvestment in farm	1.8	2.2	1.0
Taxes on property*	4.9	6.2	2.3
All other investments**	79.8	79.8	79.9

*Taxes here are for property not a part of the operated farm.
**This is almost exclusively other real estate than the farm operated.

Tradition and the psychological influence of the exalted position of land in the farmers' category of values are responsible for his preference for farm land, or real estate in towns, over practically all other forms of investment. This has grown out of the age-old assumption that land ownership is self-evidence of social status, and therefore deserving of prestige; that land is a safe investment which cannot be stolen or burned; and that owning land is a means toward increased economic security. Perhaps the farmer's desire for land has been unduly stimulated through conditions as they were in the past. In view of this, real estate investments outside the operated farms account for almost 80 percent of the total investment payments of the Oklahoma farmers studied in 1932-33.

It will be admitted that land is a relatively imperishable commodity, and that probably it will always be in demand. But conditions seem to be such now that surplus land not needed in producing a living is frequently a liability rather than an asset because of the heavy fixed cost attendant to its ownership, and its low productive power during the period of declining prices. It cannot be hidden from the tax gatherer and there is little

relation between the taxes placed on it and what it will produce. Furthermore, there is no guaranteed rate of return written into a land title as there is in a government bond, and its turnover is slow and uncertain. Modern conditions have changed most things, and the enviable position of land as a form of investment is one thing that has changed. In the reorganization of American agriculture the farmer's investment problem is one that needs serious, intelligent consideration.

8. Theoretical Implications in the Analysis of Family Living Budgets.

While Wright's version of Engel's "Law of the Consumption of Wealth" forms a clue which serves as a basis of the foregoing analysis, it is by no means intended that it has been either verified or denied here in an absolute sense. In the first place it must be recognized that Engel studied the family budgets of wage earners near the middle of the nineteenth century, and that he was dealing with a European population whose food habits and mode of life were different from those of an American agricultural population even at that time. Second, Engel was concerned with the problem of establishing laws of consumption primarily in reference to the satisfaction of hunger and other physiological wants. In the third place, it seems that the interpretation given Engel's laws in most countries has been incorrect.[3] Furthermore, for farm families, at least, the types of wants mentioned by Engel do not comprise the total scale of wants. Finally, a large proportion of the living of farm families such as house rent, fuel, and part of the food often does not involve an actual cash expenditure.

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[3] See Carle C. Zimmerman, "Ernst Engel's Law of Expenditures for Food," Quart. Jour. Econ., XLVII, Nov. 1932, pp. 78-101. This article is a most exacting critique of not only the current interpretations of Engel's Law but of the law itself.

Zimmerman says "the most favorable statement of Engel's principle is that of a relationship between so-called physiological and cultural expenditures." At this point he quotes Engel: "the proportion of expenses for nourishment increases in geometric proportion inversely to the well-being of the family."[4] In the later paper he again translates Engel's exact words:

(1) "The poorer the family, the greater is the proportion of the total outgo which must be used for food.

(2) "The proportion of the outgo used for food, other things being equal, is the best measure of the material standard of living of a population."[5]

The conclusion Zimmerman reaches is that Engel was not trying to establish theories concerning the satisfaction of all wants, but that he was interested primarily in the problem of physical needs versus other needs. Also he contends that other "regularities" have been read into Engel's Law and have been stated by others without authentication, since he does not find them in the original text. Finally, he argues that Engel's Law as stated need not be expected to be continuously true because the satisfaction derived from the consumption of a unit of a commodity declines rapidly when succeeding units are consumed, and that other commodities once much lower on the demand scale become relatively more attractive than the original commodity. On the other hand, a literal reading of the law justifies the logical inference that in the lowest economic groups food might require 100 percent of the income, or even more, while in the wealthiest classes its proportion might be zero or less. Neither of these conditions is possible of sustained continuance.[6]

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[4]Carle C. Zimmerman, Factors Affecting Expenditures of Farm Family Incomes in Minnesota. St. Paul: Univ. Minn. Agric. Exper. Sta. Bul. 246, p. 26, footnote.

[5]Quart. Jour. Econ., XLVII, Nov. 1932, p. 80.

[6]Ibid.

In any case then, Engel's Law must be applied only within limits as he himself well knew and intended.

Assuming the validity of Zimmerman's interpretation of Engel's Law and recognizing the limitations he would place upon its application, it seems safe to say the data presented in Tables 16 to 21 inclusive indicate that the cash expenditures of farm families for food vary in inverse relation to socio-economic status. Tenant families spend less for food in an absolute sense and more relative to spendable incomes than owner families. The same applies with reference to expenditures for household operation, clothing, health and automobiles. With regard to advancement, investment and personal and miscellaneous items, owner farmers have larger expenditures than tenants both absolutely and relatively. While the inference may be drawn that this is in the main a verification of the principles enunciated by Engel, in reality it transcends his law. He made no allowance for either investment or transportation as such. This does not tell the whole story, however. In the main, a similar principle holds with respect to the size of the investment operated, but it is obvious that investments operated are not highly selective of families in either social or economic status. With respect to increases in income, this study shows that the percentage of the total living budget going for food ranges from 38.7 in the lowest income group in comparison with 10.5 in the highest. Household operation does not obey the regularity supposed for Engel's Law, but declines noticeably in the highest income class. However, no cash charge is made for rent of the dwelling in this study.[7] Clothing expenditures decline proportionately but rise

[7]This point has been a subject of much specious argument in standards of living studies. To be sure, a farm dwelling is not a free good. On the other hand, in legal contract the value of a dwelling accrues to the land itself. See Bouvier's Law Dictionary (3rd. Rev. 8th Ed.). St. Paul:

absolutely in passing from the lowest to the highest income groups. Both health and advancement expenditures rise greatly in actual money spent but fail to show significant proportionate gains as incomes increase. Investment expenditures rise both absolutely and relatively as incomes increase.

The significant characteristic of farm family expenditures at the time and place of this study is not so much that they either follow or deviate from principles established by either Engel or anyone else, but that they seem to obey a law of necessity. Food, within limits, is the subject of an inelastic demand. The kinds of food and the amounts of each kind consumed may vary, but the total minimum calorific requirements necessary to avoid hunger will be sought. However, food luxuries may be avoided. Ill health and bodily ailments may be endured almost indefinitely, and frequently the charges made for health service are not in proportion to actual need but rather the individual's prospective ability to pay. In any case, the health expenditure is largely subjective and fictitious in terms of service rendered and treatment required. This item also varies with the age composition of familes, which is in turn a factor in incomes received. Advancement expenditures are limited to a great extent by the unpredictable tastes of the family rather than by any definite concrete need. For farmers, the investment is very close to a physiological necessity because of the important role it plays in

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West Pub. Co., 1914, Vol. 2, p. 1287. Furthermore, in contractual practice farm land is leased either at stated amounts per acre or on agreed portion of crops grown usually without reference to dwelling houses. If a charge for house rent were made it would have to be at some arbitrary capitalization figure and would be entered in both income and expenditures identically, and would simply cancel out. Hence, carrying a charge for house rent in an analysis of farm family budgets only complicates arithmetical operations without throwing any light upon the problem at hand.

producing the family living. Therefore, the desire to keep the investment intact may take precedence over many other wants including health, clothing, household operation and advancement. In view of these things, it is not surprising that farmers' expenditures for living obey established laws only when convenience dictates. Perhaps the uniformities in farmers' expenditures are results of other factors than those prevailing in the social groups to which the "laws of expenditures" applied originally.

The size of the family is a continuous factor determining the pressure of family wants upon the income. It has been found that while the spendable income per "ammain unit" decreases with increases in the size of the family the total family expenditures increase with the size of the family. Other things being equal, an increase in the size of the family, then, is tantamount to a reduction in income, though not necessarily in the same proportions. Housing accommodations may be utilized more completely in fairly large than in very small families. Clothing may be passed down from older to younger children in growing families, thus effecting an appreciable degree of economy in consumption of clothing. The large family may grow a large proportion of its food at home, thereby substituting time or labor for cash income. These possible adjustments may often offset the effects of size of family upon the pressure of wants upon the income. In this respect, particularly, the farm family budget has an escape from the fixedness implied by principles or laws of the consumption of wealth. On the other hand, farm families often increase in size without regard to either income or tangible wealth. This tends to destroy regularity in the division of the spendable income.

On the whole, the only definite regularity in farm family living

expenditures found in this study which may be regarded as uniformly similar to the Engelian hypothesis is that the food expenditure, within limits, varies inversely with income. There are other regularities that do not come within the scope of this law as it has been interpreted here. This suggests a need for more fundamental research into the nature of farm family expenditures to the end of projecting a more complete law of consumption. Obviously, as social and economic conditions change with invention and accretions to culture, the schedule of human wants will change likewise. Luxuries will become necessities and erstwhile necessities will become useless and obsolete. The only point that can be considered as fairly well established is that physiological wants follow a regularity in their demand for satisfaction. Non-physiological wants are dependent for their gratification upon a variety of cultural and psychological factors which have not been recognized definitely by anyone for any particular social group in the population.

CHAPTER V

SOCIAL AND ECONOMIC STRUCTURE OF THE FARM HOUSEHOLD

1. Concept of the Household.

Usage has not established a clear distinction between the "household" and the "family." The two terms do not necessarily refer to the same thing although they are frequently employed as if they were entirely interchangeable. Strictly speaking, the family should be thought of as consisting of a husband and wife, their offspring and their immediate kin, if any, who are dependent upon them for sustenance and protection. This is a monogamous type of family, which is the only type which need be considered for purposes of this study. A household may be any group of persons dwelling in a common abode and comprising a socio-economic unit, or dependent upon common sources of maintenance. The family is first of all a gentic group, a kinship group, or a group in which the one indispensable bond is propinquity and continuity of biological heritages, although it may include persons who by marriage or adoption acquire the same status as natural members of the group. A household need not be maintained upon the basis of any but economic bonds and common residence. The family, ordinarily, is characterized by all the bonds which unite a household, and, in addition, must be supported by the kinship bond which is not an ineradicable feature of a household. Superficially a household usually bears a close resemblance to, and may even be substituted for, the socio-economic functions of the family, but if it is only a household in which no marital union exists it can be scarcely expected to perform all the bio-social functions of the family.

In the nomenclature of the LePlay School, allowance is made for all types of familial relationships which have been observed in this study.[1] A household as applied in this discussion varies in size from one person up to as many as ten or twelve, and from a family composed of only a husband and wife with no children to compound families with antecedent, lateral, and descending relationships of varying degrees, and even includes persons not regarded as having the status of family members in any sense.

2. Family Organization.

After the concept of the farm family unit has been set up, it is desirable to have at least a rough idea of the principal forms of family organization which exist with a population group. Numerous writers have maintained that farming is a family enterprise and that the farmer's inclination toward familism is one of the strongest found in any social group. Whether or not this be true, it remains that a semblance of family or of an integrated organization is one of the most nearly universal exterior features of the farm mode of life. Utter detachment from all family or near connections is thought to be the exception rather than the rule among farm operators of all grades.

In this study of 562 farm units, commonly referred to in preceding portions of the text of the discussion as families, it was found that the usual type of family unit composed of parents and their offspring was overwhelmingly predominant. A distribution of farm operators according to the type of household unit maintained is shown in Table 25. This

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[1] See Edmond Demolins, "Comment on Analyse et Comment on Classe les Types Sociaux," Societe Internat. de Science Sociale, Brochure de Propagande, p. 78. Also quoted by Pitirim Sorokin, Contemporary Sociological Theories. New York: Harpers, 1928, pp. 66-73; Carle C. Zimmerman and Merle E. Frampton, Family and Society. New York: D. Van Nostrand, 1935, pp. 121-134.

table shows that of the 562 operators studied, 490 or 87.2 percent, were in families in which both the operator and his wife were living at the moment of the survey. In the owner group, 85.6 percent and in the tenant class 89.0 percent of the operators came within the same category. Even allowing for the greater age of owner operators, and consequently the greater chances for death and other forms of family disruption, only 3.4 percent more tenant than owner operators were heads of ordinary family units. Of the 24 widowed male operators, 19, or about four-fifths of them, were owners and the remainder were tenants. This number comprised 4.3 percent of all operators, 6.4 percent of the owners, and 1.9 percent of the tenants. Widowed female operators comprised only about half as large a proportion, 2.8 percent compared with 4.3 percent, of the total as did widowed males. However, in the tenant group the proportions of widowed operators were the same, 1.9 percent, for each sex.

Table 25. Distribution of Operators According to the Type of Household Organization Maintained

Type of Household Maintained by Farm Operators	All families		Owner families		Tenant families	
	Number	Percent	Number	Percent	Number	Percent
Total	562	100.0	298	100.0	264	100.0
Husband and wife both living	490	87.2	255	85.6	235	89.0
Widower, with children	24	4.3	19	6.4	5	1.9
Widow, with children	16	2.8	11	3.7	5	1.9
Children, both parents dead	1	.2	1	.3	---	---
Parents aged, farm operated by child	4	.7	4	1.3	---	---
Solitary male operator	26	4.6	7	2.4	19	7.2
Solitary female operator	1	.2	1	.3	---	---

Ordinarily, the proportion of widowed females is much larger than that of widowed males in the general farm population. In a previous study by the writer it was found that for the United States as a whole there were only

67.6 widowed males to 100 widowed females in the farm population, while the corresponding figures for Oklahoma were 79.8 widowed males to 100 widowed females.[2] Groves and Ogburn account for this difference by (1) a higher death rate for males than for females in the adult population, and (2) a greater predisposition of widowed males than of widowed females to remarry after the mate has died.[3] This comparison does not follow necessarily at this point in the present study for the reason that Table 25 is dealing not with the whole population of the sample studied but only with the heads of households and with persons acting in the capacity of heads of households. It must not be concluded, therefore, that the data in Table 25 are inconsistent with actual conditions.

In Lively's study of the growth cycle of the farm family, he found that there were slightly more households composed of widowed females and children than of widowed males and children.[4] However, the numbers in both cases were too small to have a great deal of statistical significance in the sample he used. Marriageable women in the farm population of Oklahoma as a whole are and since the opening of the territory to white settlement have been scarce relative to the number of marriageable men. Such a condition is typical of rural populations generally, and of new agricultural areas in particular. This creates a degree of tension in the farm family institution because of the overwhelming majority of these excess males that are absorbed into the farm family either as members or quasi members of existing families. Even hired men frequently receive room,

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[2]See Otis Durant Duncan, "Sex Ratios and Marital Condition of the Adult Population of Different Types of Communities in the United States," Social Forces, Vol. XII, No. 2, Dec., 1933, p. 284.

[3]Ernest R. Groves and William F. Ogburn, American Marriage and Family Relationships. New York: Henry Holt Co., 1928, Ch. XX.

[4]C. E. Lively, The Growth Cycle of the Farm Family. Columbus: Ohio Agric. Exper. Sta., Mimeograph Bull. No. 61, Oct., 1932, p. 8. See also F. Stuart Chapin, Contemporary American Institutions. New York: Harper and Brothers, 1935, Ch. VI.

board, and laundry as members of the employer's household as part of their wages. It seems, therefore, that the status of persons in the household is of the greatest importance in determining the actual character of the farm family. Obviously, the occurrence of contradictory findings in studies of various population groups as different in cultural backgrounds as those of Ohio and Oklahoma need not imply an invalidation of the results and interpretations given them in either case.

3. The Farm Household Relationship.

The farm family is a rather flexible institution when viewed in terms of its ability to absorb extraneous population. Taken as a whole, it appears at once to be a highly complex phenomenon. There are many reasons for this. In the first place, the earmarks of the old time patriarchal domination seem to be more visible on the farm family than upon any other in America, although they do not seem as prominent as many writers of the popular type would have them appear. Second, the farm family group, or household, is not only a biological unit, but also an industrial and an economic group. Work habits, the business itself, and virtually all phases of farm living are centered in and radiate from the family. Division of labor in agricultural production within each locality is largely a division of labor within the family. Third, the traditional geographic isolation of the farm family, has led to an intense integration of the family. In other words, the elasticity of farm family bonds is largely a psycho-social and a socio-economic adaptation for the mitigation of the untoward effects of territorial dispersion. Fourth, as a probable result of the operation of these forces, the farm

family has remained a rather complex cumulative group.[5]

An illustration of how great the absorptive power of the farm family actually is under conditions of modern life may be found in Tables 26 and 27. The important characteristic of these tables is not the magnitude of the numbers of outside persons found in farm households, but it is the range of the relationships which they include. This may extend from first degree kinship to none whatever, and may include every possible combination of relationships which can exist. It is not maintained that a given household at a specific moment is likely to contain all these relationships at the same time, but it is not improbable that during its life history a single household may actually experience them.

Table 26. Number of Persons Residing in 562 Farm Households According to Kinship Position in Households

Kinship position in operator's household	Number in all households		Number in owner households		Number in tenant households	
	Males	Females	Males	Females	Males	Females
Total	1249	1066	647	538	602	528
Heads of households	540	513	281	272	259	241
Resident children	625	478	314	226	311	252
Unmarried children returned	6	1	6	—	—	1
Married and widowed children	22	24	17	18	5	6
Grandchildren	13	14	9	10	4	4
Parents of family heads	8	19	6	5	2	14
Fraternal relatives	9	7	4	2	5	5
Nephews and nieces	8	2	4	1	4	1
Uncles and aunts of heads	2	—	—	—	2	—
Cousins of family heads	—	2	—	2	—	—
Foster relations	9	3	2	1	7	2
Wage earners and boarders	7	3	4	1	3	2

In connection with the foregoing data it is well to point out that a

[5] For definition and illustration of the character of cumulative groupings, see Pitirim A. Sorokin, Carle C. Zimmerman and Charles J. Galpin, A Systematic Source Book in Rural Sociology. Minneapolis: University of Minnesota Press, Vol. 1, 1930, pp. 308-318. See also F. Stuart Chapin, op. cit., especially pp. 86-91, 100.

slightly higher proportion of all females than of males contained in all households were persons whose status either had been modified by marriage or was acquired than of males, the figures being 7.3 percent and 6.1 percent respectively. Among those of filial status who had returned home, daughters-in-law were most numerous, with unmarried sons second, married daughters and sons tying for third place, widowed daughters fourth, and widowed sons and sons-in-law tying for fifth place. The parents of family heads living in the households were predominantly the mothers of one or the other of the family heads, there being 24 mothers as compared with eight fathers. It will be recalled that the statement was made in connection with Table 25 that one of the reasons for the small proportion of widows among the operators of the farms studied was their tendency to join themselves to the households of relatives. The facts given here support that statement. For this reason the marital condition of the farm operators differs significantly from that of the total farm population.

Table 27. Percentage Distribution of Persons in 562 Farm Households by Tenure of Operator and Sex of Persons According to Kinship Position in Households

Kinship position in operator's household	Percent of persons in all households		Percent of persons in owner households		Percent of persons in tenant households	
	Males	Females	Males	Females	Males	Females
Total	100.0	100.0	100.0	100.0	100.0	100.0
Heads of households	43.2	48.1	43.5	50.6	43.0	45.6
Resident children	50.0	44.8	48.5	42.0	51.7	47.7
Unmarried children returned	.5	.1	.9	---	---	.2
Married and widowed children	1.8	2.3	2.6	3.4	.8	1.1
Grandchildren	1.0	1.3	1.4	1.9	.7	.8
Parents of family heads	.6	1.8	.9	.9	.3	2.7
Fraternal relatives	.7	.6	.6	.4	.8	.9
Nephews and nieces	.6	.2	.8	.2	.7	.2
Uncles and aunts of heads	.2	---	---	---	.3	---
Cousins of family heads	---	.2	---	.4	---	---
Foster relations	.7	.3	.3	.2	1.2	.4
Wage earners and boards	.7	.3	.7	---	.5	.4

The numbers of outside persons, including descendants of the natural family who have been away from home and returned, are too small to justify any but the most restricted interpretations. However, the data are suggestive; at least, they stimulate questions which are significant. For example, why do mothers of family heads appear to live with their children more frequently than fathers? Probably this may be due to the tendency of women to outlive their husbands, especially in the upper age groups. Why do unmarried sons of owner operators return home in greater numbers than unmarried daughters? A further question suggested by the raw data was, why are there more daughters-in-law than natural daughters in the homes of the operators? No doubt, this may be a survival of the old principle of primogeniture and of the tendency of sons to take over the parental farm more often than daughters or their husbands.

It is to be expected that widowed daughters would be more numerous in the parental home than widowed sons because of a tendency of widowed males to remarry in greater proportions than widowed females. The mother of the wife according to this survey is no more likely to become a member of the household than the mother of the husband, although popular beliefs may exist to the contrary. However, fathers, like sons of householders, either die or remarry sooner than mothers and daughters. Moreover, fathers retain control and sons live with them. Mothers turn the farm over to their sons. During the depression in particular, unemployment has been relatively more severe for young men than for young women.[6] This is, in all probability, a contributing factor in the return of sons

[6]The latest reliable data prior to the initiation of this study are for 1930. See U. S. Census, 1930, Unemployment Bulletin, Oklahoma, Table 2. A careful analysis of the Census figures will show that in proportion to the numbers gainfully employed for each sex, unemployment in the cities of Oklahoma was at least twice as great for men as for women.

to their fathers' homes. There are no data which suggest the answer as to why daughters-in-law are more likely to take up residence in a given household than natural daughters. A conjecture would be that sons are likely to take over the farms of their aging parents more often than sons-in-law. It may be too sons would feel less restraint in taking their families to their own parental homes than to those of their wives while they go out in search of work. These are only speculations which may or may not be valid.

4. Economic Position of Household Members.

There is a purely economic side to the problem of doubling up of households. Sometimes it is a matter of abject dependency and poverty that drives people into the homes of others. Again, it may be a more convenient form of division and economy of labor. Also, it may be a method of preserving the family holdings, especially in case of aged parents who do not expect to live many years and want their children, or some other person if they do not have children, to take possession of the farmstead when they are overtaken either by death or by complete senility. During the depression period this has been a method of saving the expenses of hired labor on the side of the employer and of finding work on that of the laborer. It is a common thing to find men who "work and live as members of a family" when there is no kinship relation whatever. Since it is a frequent practice for the hired man to receive board, room, and laundry as part of his monthly wage, this is a form of adaptation often highly agreeable to both parties.

The 159 persons, other than actual resident members of the family, who resided in the households studied fall into five convenient economic classes. First, there are those who work and live as regular members of

the family; second, those entirely dependent upon the family; third, those sharing the dwelling but paying their own shares of the household expenditures; fourth, hired laborers receiving money wages; and fifth, those who pay board. In the first class were 50.4 percent of the total additional persons in households, 35.8 percent in the second, 7.3 percent in the third, 3.6 percent in the fourth, and 2.9 percent in the fifth. The smallness of the number of cases does not justify detailed sub-divisions. However, there was nominally 112.0 males to 100 females among the "acquired" members of the households. Of those depending entirely upon the family head, 57.1 percent were females, while of those meeting their own expenses seven out of ten were males, but for those working and living as members of the family the proportions of the sexes were identical.[7]

In Table 27, it was shown that 43.2 percent of the entire male population and 48.1 percent of the females were household heads. In the owner

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[7]There is one distinction between farm and city households that should be mentioned in regard to lodgers and boarders. The federal census of 1930 shows that in 93.9 percent of all rural households, the percentage being the same for both the farm and the rural non-farm populations, there were no lodgers. In all urban households, 87.9 percent of the households contained no lodgers, while the corresponding proportions for Oklahoma City and Tulsa, the only two centers in the state having over 100,000 inhabitants, were 84.2 percent and 85.6 percent, respectively. In other words, it appears that the keeping of lodgers is a phenomenon of urbanization more than of ruralization, since the proportions of city households with lodgers are at least twice as great as that for farm households. The probable reason for this appears to be two-fold: First, many city families tend to derive a substantial part of their incomes, even all in many instances, from the keeping of lodgers, while in the farming areas the keeping of a lodger is more frequently an accommodation to the lodger than a means of livelihood to the farm family. Second, a common practice for detached persons residing in farm homes is for them to work as members of the family, thereby acquiring quasi-membership in the family. The matter of definition is, then, in some measure responsible for the differences which are found.

class 43.5 percent of the males and 50.6 percent of the females were household heads, while corresponding figures for tenants were 43.0 percent and 45.6 percent respectively for each sex. It is upon these persons that all the population of the households depends ultimately. To be sure the largest group of dependents is composed of the children who have never started life on their own resources. Although the older children may be nominally self-sustaining by having a share of the crop given them, their dependency upon the family budget is almost as great as that of small children. Giving a boy a crop is primarily a method of the father to stimulate the son's industry, to give him self-confidence, and to train him in managerial practices. It is the operation of one of the functions of the family as an educational and a vocational training agency.

In the relationships just described, the farm family is an agent which allows a kind of socio-economic symbiosis. The kinship relationships are often not real but fictitious, and the economic status of many of the members of a household may be regarded as almost parasitic. The farmstead is a place of last resort to luckless sons, neighbors, and relatives as well as to the aged and infirm parents and the young children of the household heads who have an inherent right to its protection. There are no "flop-houses," alms houses, homes for the indigent, hospitals, or eleemosynary institutions in the open country which serve in an appreciable way the need of farm people for these services. Either the existing families must serve them, or those in need must migrate from the community. Inasmuch as the rural areas have much more than their proportionate share of the nation's old people, it is evident that they are cared for in the family. Thus the farm family becomes not only an agent for caring for its own members but also it must perform many of

the professional services of providing hospitalization, administration of charity, shelter for the aged, and homes for orphans which are now coming to be regarded as public responsibilities.[8]

There is a tangible tendency for the farm owner's home to serve more as a refuge for those who may be thought of as stranded than for that of the tenant. Of the 159 people other than resident members of the households 42.1 percent lived in the homes of tenants and 57.9 percent resided in owner households, while 47.0 percent of all operators were tenants and 53 percent were owners. Of the total population studied, 48.8 percent were in tenant households and 51.2 percent in those of owner operators. In the total population of the households of owners there were 120.2 males to 100 females, while in those of tenants there were only 114.0 males to 100 females. Among the additional persons in owner households there were 120.0 males to 100 females, and in the tenant households only 91.4 males to 100 females. From these facts it can be seen that this is to be expected, because there is a greater probability that in a given area, the owner will be the more able to provide means of subsistence for additional persons. Again, owner families are older and probably have more adult children and a greater proportion of aged and dependent parents than the tenant farmers. Further-

[8]It is to be remembered that this survey was taken just prior to the advent of the Federal Government directly into the field of social service. Since the adoption of that policy by the public, casual observation shows that there is another relationship being served by the farmstead. Refugees from cities, displaced tenant farmers, and others are making use of abandoned dwellings and other buildings about the farm as places for shelter, while they find food and clothing as best they can, either through the public agencies, by odd jobs, or by plying small scale handicrafts. This is not a new phenomenon historically speaking, but it has found renewed impetus during recent years and is becoming the crux of an acute social problem in many parts of Oklahoma.

more, the so-called "marginal" tenant farmer, who is barely able to eke out a living, is himself a potential case for charity more often than an owner farmer.

Among the resident children, those who had never lived away from home, there were 138.9 males to 100 females in the owner families and only 123.4 males to 100 females in the tenant families. Among those who had voluntarily attached themselves to the families studies of the sex ratios were 130.0 males to 100 females in the owner and only 91.4 males to 100 females in the tenant households. The greater masculinity of owner than of tenant households suggests a number of important questions. First, is this phenomenon merely incidental or is it of real significance? Second, do females migrate more often from owner and males more often from tenant families? Third, does the owner household simply offer a more inviting shelter to the stranded male population than that of the tenant, or is it not likely that the owner farmer can utilize larger amounts of male labor to an economical advantage than the tenant? Fourth, is it likely that a greater masculinity of owner than of tenant families is partly responsible for their superior tenure status?[9] It is not possible to answer all these questions at this point. However, some of them will be touched upon in subsequent portions of the study. In general, it would appear that the greater masculinity of owner households is a function of farm labor organization. It seems plausible that the typical farm owner in the wheat area could use surplus male labor to a greater advantage than the tenant. It seems likely that this need for male labor on the farm may

[9] In another Oklahoma study by O. D. Duncan and J. T. Sanders, it was found that the excess of masculinity declined in owner families in comparison with those of tenants, and also it was lower in the more well-to-do than in the poorer families. See Oklahoma Agric. Exper. Sta. Bull. 211, April, 1933, pp. 16-18.

be a factor causing farm owners to favor sons somewhat more than daughters in the division of family property as a special inducement to keep them at home, especially after the parents become old and partially dependent.

The wheat growing region of Oklahoma is essentially an area of mechanized farming so far as field crops, the principal interest of the tenant, are concerned. On the other hand, the owner farmer has need for hand labor in making repairs and improvements on the farm, while the tenant does not. Furthermore, the owner is usually more favorably situated than the tenant for supplementing arable farming with livestock and dairy enterprises than the tenant. These differences in the organization of the farm business are sufficient to attract relatively more males to owner than to tenant farms. On the other hand, there is little difference in the demand or the comparative utility of female labor on one farm over another whatever the tenure status of either may be.

5. Age Composition of Additional Persons in Households.

The age factor in the socio-economic condition of farm populations is of the greatest importance not only because it is a vital limitation upon the economic value of human labor but also because it is a determining influence in relation to status in the family, social participation, learning, nutrition, political activity, and in practically every sphere of human life. In the farm family, age, sex, and filio-parental relationships probably constitute the threefold indispensable framework of the whole pattern of social life. At this juncture, however, the immediate concern is with the economic aspects of age in respect to a particular segment of the population of the farm households studied. Economic productivity declines rapidly in proceeding from 20 years downward and from

45 to 50 upward, especially outside of agriculture, until persons below 10 and those 65 or above are considered virtually unemployable. The age composition of the dependent population of the households studied is shown in Table 28.

Table 28. Age Distribution of Additional Dependents in 562 Farm Families Compared with That of the General Population of Oklahoma Shown in Percentages in Each Age Group

Age groups	Percent of population in specified age group			
	Additional household dependents on 562 farms surveyed		General population of Oklahoma in 1930*	
	Males	Females	Males	Females
Total	100.0	100.0	100.0	100.0
19 and below	30.0	40.3	43.5	45.0
20-29	27.1	19.4	17.3	18.5
30-39	12.9	6.0	13.6	13.9
40-49	2.9	3.0	10.5	10.1
50-59	7.1	9.0	8.0	6.7
60-69	5.7	13.4	4.4	3.6
70-79	5.7	4.5	2.1	1.7
80 years and over	8.6	4.4	.6	.5

*Source: U. S. Census, Population, 1930, Vol. II, p. 647.

The age distribution of additional dependents in farm households is compared with that of the general rather than of the farm population of Oklahoma because it was considered likely that the persons drifting into these households would not necessarily be confined to any one occupational group (see Table 28). At any rate, this shows a good general comparison. It is to be observed that dependency of the type found here, which may be thought of largely as semi-dependency, is a function of youth and old age. In the general population of the State the proportions of the total in each age group declines rapidly with advancing age, while in the dependents shown here, the proportions in successive age groups decline until well into middle age and rise precipitantly with the oncoming of old age.

This age distribution, more than likely, arises out of a concentration of young adult males and of aged relations into the households, the young adult females having migrated to towns and cities. In the old age groups the variations are not regular because the death rate becomes higher and the chances of being thrown back upon a relative for support increase with advancing years.

Due in part, at least, to the conditions just mentioned, it is somewhat noticeable that the greatest danger dependency for females past middle life seems to be just at the beginning of old age, in the ten year interval from 60 to 69 years, while for males it is likely to be postponed until they are well past 70 years of age. Perhaps this is due to the fact that husbands are usually several years older than their wives, and that their death rates are somewhat higher in old age. Thus many women in their sixties have husbands in their seventies, and with the higher male death rates the number of widows in that age group is likely to be relatively great. They are left too old to continue keeping their own homes, and usually they do not wish to remarry at such ages. The males are usually at a more advanced age when their wives die than are the females when their husbands die. Thus the incidence of dependency is likely to be heaviest upon the very old men.

6. Size of Households.

The household as used here has reference to all persons sharing the same roof and table in any way whatever. It is, therefore, not the same social aggregate as the family, which for purposes of this study is understood to mean the operator, his wife, and their immediate offspring.

In this study it has been found that the average number of persons per household does not vary greatly in the owner as compared with the

tenant class of farmers. For all farmers, the average number of persons per household was 4.1 ± 2.0, for owners 4.0 ± 2.1, and for tenants 4.3 ± 2.0. For all farmers 82.2 percent came within the range of two standard errors, for owners 83.5 percent, and for tenants 80.7 percent.[10] These values for the mean numbers of persons living in households indicate that there is in reality less clustering of the data about the group norms than the percentage of the samples falling within two standard errors would suggest ordinarily. The standard errors are practically one-half as large as the means, and a difference of two persons per household, whether negative or positive, is comparatively great. The significant fact about these means is that they show clearly that the over-large household is the exception far more often than the rule. A more detailed characterization of the households studied is given according to size in Table 29.

Table 29. Number and Percentage Distribution of Households According to Size, by Tenure

Number of persons living in households	All households		Owner households		Tenant households	
	Number of households	Percent of households	Number of households	Percent of households	Number of households	Percent of households
Total	562	100.0	296	100.0	264	100.0
1	22	3.9	12	4.0	10	3.8
2	118	21.0	73	24.5	45	17.0
3	111	19.7	61	20.5	50	18.9
4	110	19.6	51	17.1	59	22.3
5	80	14.2	44	14.8	36	13.6
6	43	7.7	20	6.7	23	8.7
7	31	5.5	15	5.0	16	6.1
8	27	4.8	11	3.7	16	6.1
9	14	2.5	8	2.8	6	2.3
10	2	.4	1	.3	1	.4
11	3	.5	1	.3	2	.8
—	—	—	—	—	—	—
14	1	.2	1	.3	—	—

[10] From this it would appear that the chances are even greater than two to one that in any random sample, taken as were the data for this study, from the area studied the mean sizes of households will be within the range of the variations found here. See Robert Emmett Chaddock, Principles and Methods of Statistics. Boston: Houghton Mifflin Co., 1925, pp. 237-280, for further discussion of the value of the standard error of the mean.

A simple percentage distribution shows that owner households of one and two persons and of five persons or more were relatively more frequent than tenant households of similar size. Tenant households of from three to five persons were relatively more frequent than owner households within the same limits. Apparently the explanation of this is that on an average, the owner household was somewhat older than that of the tenant, and relatively more owner than tenant families had completed their life cycle. Likewise, the greater relative frequency of tenant than owner households of from three to five persons and of owner than tenant households with over five persons is largely a function of the average age of the families in each class. It seems to be mostly a matter of chance whether a household of nine or more persons will be headed by a tenant or an owner operator, with the chances slightly greater that these extra large households will belong to owners.

Although there were relatively more households of the extreme sizes, both small and large, among owners than tenants, it does not follow that the distributions of the tenant and owner populations follow curves which are identical with those showing the distributions of households for the two groups. The proportion of the population in a given size of household is a function not only of the number of persons but also of the proportion of households of the same size to the total. The distribution of the population studied according to the number of persons per household is shown in Table 30.

From the data given in Table 30, it may be observed that households having five persons or less sheltered 61.9 percent of the total population, 64.6 percent of the owner population, and 59.0 percent of the tenant population. If, however, the households of only one and two persons be eliminated, this will account for 13.3 percent of the owner and 8.9 per-

cent of the tenant population. On the other hand, households having six or more persons contained 35.4 percent of the owner and 41.0 percent of the tenant population. The range in the size of households was from one to fourteen persons for owners, and from one to eleven persons for tenants. This means that in spite of the greater potential size of owner households, tenant households tend to be more consistently large than those of owners, especially in the medium large sizes, that is from six to nine persons. Again, this must be qualified by the age factor in family organization, since it has been shown that over 90 percent of the populations of both owner and tenant households were resident members of the natural family. The smallness of the owner family in comparison with the tenant family is very likely due as much to the migration of adult children from the owner household as to a greater birth rate among the tenants.

Table 30. Number and Percentage Distribution of Persons According to the Size of the Households in Which They Live, by Tenure

Number of persons living in household	All households		Owner households		Tenant households	
	Number of persons	Percent of persons	Number of persons	Percent of persons	Number of persons	Percent of persons
Total	2315	100.0	1185	100.0	1130	100.0
1	22	1.0	12	1.0	10	.9
2	236	10.2	146	12.3	90	8.0
3	333	14.4	183	15.5	150	13.3
4	440	19.0	204	17.2	236	20.9
5	400	17.3	220	18.6	180	15.9
6	258	11.1	120	10.1	138	12.2
7	217	9.4	105	8.9	112	9.9
8	216	9.3	88	7.4	128	11.3
9	126	5.4	72	6.1	54	4.8
10	20	.9	10	.8	10	.9
11	33	1.4	11	.8	22	1.9
--	--	--	--	--	--	--
14	14	.6	14	1.2	--	--

The significance of these data is simply that they show that 28.8

percent of the households, of smallest size, contained only 12.2 percent of the population, 64.2 percent of the households, those with fewer than five occupants, contained 44.6 percent of the population. On the other hand, 35.8 percent of the households, those having five or more members, held 55.4 percent of the population. Only .7 percent of the households had ten or more occupants, and 2.0 percent of the population resided in households of ten or more members.[11] The socio-economic inference of the facts presented here is that the standard of living is likely to be affected adversely by over-crowding when the proportion of the population residing in households becomes significantly larger than the proportion of households of a given size or larger. It was shown in Table 10 that the per capita net spendable income showed a decided tendency to decrease as the size of the family increased. The net spendable income per ammain unit declined from $209 in families of 3.9 ammain units to $105 in those of eight or more ammain units, the average being $214 for all families. By comparing Tables 29 and 30 it will be observed that 19.6 percent of the households and 19.0 percent of the persons were in four member households. In no other category are the proportions so nearly balanced. Immediately, the percentage of households begins to decline faster than that of persons after passing those having four persons.

In other words, when the number of persons per household becomes significantly greater than the average for a population group, there is danger that the standard of living will be forced downward, because the evidences found previously indicate that the economic productivity of the farm family increases relatively more slowly than the number of dependents after the average has been exceeded. It stands to reason that

[11] Compare these figures with those given by Lively, op. cit., p. 5.

housing space, as only one factor in the standard of living, on an average does not increase in direct proportions to the number of occupants. On the other hand, the economics of house construction almost decree a minimum of space. Invariably, this minimum is likely to be more adequate for smaller than average sized families than for those above average size.

7. Size of Household Related to Size of Farm Occupied.

To say that land is indispensable to farmers, or that land plays a more important part in agriculture than in most other industries is almost to state a truism. But it is quite a different matter when one inquires if there is generally a balance between the human and the land factors in agricultural organization. The purpose of the study at this point is to try to find out if there is a tendency for the amount of land operated to increase with the size of the family occupying it. If it could be established that the amount of land occupied in a given type of farming area even exhibited a tendency to vary in proportion to the size of the family, it would not be difficult to determine the proportionality of other productive factors that would be needed in order to afford a reasonable degree of economic security for the farm population. Table 51 is presented in order to show roughly the interdependence of the population and the land factors.

Generally speaking the predominating size of farms for all sizes of households is from 160 to 239 acres. However, the proportions of the population having farms within these size limits decrease as the size of the household increases, but much less rapidly. Among tenants, 58.2 percent of the population in families of nine or more persons lived on farms of this size as compared with 22.9 percent of the owner population in similar sized households. Of the population in families of one to

four persons, 51.6 percent of the owners and 53.3 percent of the tenants lived on farms of 160 to 239 acres. What this amounts to, apparently, is that the owner can adjust his land to the needs of his household much more readily than the tenant. For example, one-third, 33.0 percent of the owner population in households of nine or more persons occupied farms of 400 acres and larger, while there were no tenants with households of that size living on farms of as much as 400 acres.

Table 31. Percentage Distribution of Population in Households of Different Sizes According to the Size of Farm Occupied and Tenure Status of Operators

Size of farms and tenure of operators	Percent of population in various sizes of households residing on farms of indicated size			
	All sizes of households	Households of 1 to 4 persons	Households of 5 to 8 persons	Households of 9 or more persons
Total	100.0	100.0	100.0	100.0
0-159 acres	13.8	11.5	15.7	15.1
160-239	43.7	52.5	36.9	35.7
240-319	9.3	8.5	9.7	10.8
320-399	17.9	16.2	19.5	17.3
400 acres and over	15.4	11.3	18.2	21.1
Owner operators	100.0	100.0	100.0	100.0
0-159 acres	8.6	9.8	5.8	16.1
160-239	42.3	51.6	37.2	22.9
240-319	9.3	7.9	10.8	8.5
320-399	18.0	17.9	17.8	19.5
400 acres and over	21.8	12.8	28.4	33.0
Tenant operators	100.0	100.0	100.0	100.0
0-159 acres	19.4	13.4	25.2	13.4
160-239	45.2	53.3	36.6	58.2
240-319	9.3	9.1	8.7	14.9
320-399	17.7	14.5	21.1	13.2
400 acres and over	8.5	9.7	8.4	---

Careful study of Table 31 reveals that in the owner population the law of averages obtains with a fair degree of consistency. The average size of an Oklahoma farm in 1930 was 165.8 acres, and in the area included in this survey it was approximately 200 acres. The average size of the

owner household in this area was 4.0 persons. In this table, it appears that the average sized owner household tends to be found on a farm not greatly different in size from the average except for what may be termed either as the most substantial or the very poorest classes of the owner population. In these cases, there is a deviation from the average, the direction depending as a rule upon the economic status of the family. However, for the tenant population this cannot be maintained. From 60.0 percent to 70.0 percent of the tenant population, no matter how many persons must be supported by each farm, will be found upon farms of average size or smaller. This means that the chances are almost two out of three that the tenant family will be in a position of economic stress by the time the number of persons in the household reaches five or more. But the chances that the tenant family will have as much land per person as the owner family are probably equal on an average for those tenants who may be classed as superior farmers. In other words, what the above data suggest is that the struggle for existence in the farm family is not necessarily facilitated by the acquisition of additional land commensurately with the pressure of population from within the household itself. When this cannot be accomplished, there is one alternative which approximately four-fifths of the tenant and around two-fifths of the owner population have, the lowering of the standard of living in order to meet the emergency of increased size of households. Particularly is this true for those whose households contain over five or six members already.

8. Size of Household and Net Worth of Operator.

That the foregoing statements have a factual as well as a speculative basis may be seen from an examination of additional data. Table 32 has been constructed to show the distribution of the population of households

of varying size according to the net worth of the operator.[12] The theory for this is the general assumption that wealth and size of families bear an inverse relation with respect to each other in the population at large. However, it is recognized that within a single population group this principle does not necessarily obtain.

Table 32. Percentage Distribution of Population in Different Sizes of Households According to Net Worth of Operators, by Tenure

Net worth of operator	Percent of population of households in net worth classification			
	All households	Households of 1 to 4 persons	Households of 5 to 8 persons	Households of 9 or more persons
Total	100.0	100.0	100.0	100.0
Less than $0	5.5	2.5	8.4	4.9
0 to $2499	42.1	43.1	41.3	41.6
$2500 to $4999	12.9	13.7	14.3	—
$5000 to $7499	10.8	12.3	8.6	15.1
$7500 to $9999	8.3	8.4	7.6	12.4
$10,000 and over	20.4	20.1	19.9	25.9
Owners	100.0	100.0	100.0	100.0
Less than $0	.8	—	1.9	—
$0 to $2499	9.6	11.7	6.1	16.1
$2500 to $4999	14.9	13.3	19.7	—
$5000 to $7499	19.6	22.0	16.4	23.7
$7500 to $9999	15.9	15.4	15.4	19.5
$10,000 and over	39.2	37.6	40.5	40.7
Tenants	100.0	100.0	100.0	100.0
Less than $0	10.4	5.2	14.6	13.4
$0 to $2499	76.9	77.7	75.0	86.6
$2500 to $4999	10.7	14.0	9.1	—
$5000 to $7499	1.4	1.6	1.2	—
$7500 to $9999	.3	.6	—	—
$10,000 and over	.4	.8	—	—

The distinctive characteristic of the data in Table 32 is the con-

[12] It will be recalled that net worth refers to the sum of the values of all assets owned by the family minus the sum of all its debts. It is not infrequent that the amount of debt was greater than the total value of assets. In such cases the net worth of the family is less than zero.

centration of the tenant population within the lower economic levels, and the larger the household in which the population lives, the greater seems to be its concentration in the lower economic strata. In Table 2, it was shown that the average farm in this study represented an investment of $6,097 as calculated for 1933. Of that amount, $4,759 was in land and buildings. It was shown in Table 5 that the average total assets of all farmers were valued at $7,502, those of owners at $12,644 and of tenants $1,698. Tenants accounted for 47.0 percent of the farms studied and 48.8 percent of the population, while they owned or controlled only 16.7 percent of the gross assets owned by the farmers of the entire sample. In view of these differences, it may be seen readily that the typical tenant household was in a rather precarious economic situation at the time the survey was made.

In the tenant population, 82.9 percent of those living in households of one to four persons possessed less than $2,500 net wealth, while 89.6 percent of those in households of five to eight persons had less than $2,500 in net assets, and none of the households of nine or more persons had as much as $2,500 in net assets. In the owner population, the corresponding figures were 11.7 percent, 8.0 percent, and 16.1 percent, respectively. Although it is true that lower economic status was a concomitant of large households for both tenants and owners, its incidence was far greater in the extra-large tenant than owner households. From six to ten times as high a proportion of the tenant as of the owner population were found in households averaging less than $2,500 in net wealth. On the other extreme 39.2 percent of the owner population had wealth amounting to $10,000 or more net per household as compared with .4 percent of the tenant population. There is only one interpretation

of these facts. If the wealth of the farm owner population be considered as a base, it is inevitable that increases in the size of tenant households can occur only at the risk of forcing the entire family to a lower plane of living, and one which frequently borders on want and misery.

9. Education of Operator as Related to Size of Household.

The large household is reflected in the socio-economic status of the farm population in another way, the education received by the farm operator. No one claims that formal schooling represents the complete substance of the education of an individual, but it is the only definite objective measure of education yet devised for the general population where mental age and other factors cannot be controlled. Nor would a careful student assume that the amount of schooling received by any one member of a family represents the educational status of the whole family. However, the socio-economic integration and stability of the family are closely contingent upon the personal qualities of the chief bread-winner. In Table 33 the distribution of the population of various sizes of households is shown according to the grade finished or the number of years spent in school by the operator.

One thing to be recalled is that approximately half of the operators in this study actually stopped school at the end of the grammar school or the eighth grade. For that group the proportions would be virtually the same, no matter how large were the households they maintained. The point, then, is to determine the distribution of those whose schooling was either greater than or less than the eighth grade equivalent. However, it will be noted in all cases that in the fifth to eighth grade group, as the size of the household increased the proportion of operators also was larger,

which means that there were larger proportions with less than eighth grade education falling into this class interval. On the other hand, the proportion of all farmers having any amount of schooling above high school graduation declined from approximately six percent for both owners and tenants to zero as the size of the households increased from the minimum to the maximum. The same thing applies to tenants in the high school group, but there was a gradual increase in the percentage of owners whose education stopped within the high school level as the size of their households became larger. In the tenant population there was a distinct tendency for the proportion of operators with four years schooling or less to increase along with increases in the sizes of households.

Table 33. Percentage Distribution of Population in Different Sizes of Households According to the Education of the Operator, and Tenure

Grade of education finished by operator	All households	Percent of population in educational group: Households of 1 to 4 persons	Households of 5 to 8 persons	Households of 9 or more persons
Total	100.0	100.0	100.0	100.0
4th grade or less	11.5	10.9	12.2	10.2
5 to 8	71.2	67.4	72.8	82.2
9 to 12	13.5	15.7	12.5	7.6
13 or more	3.8	6.0	2.5	---
Owners	100.0	100.0	100.0	100.0
4th grade or less	13.0	13.2	14.1	7.6
5 to 8	74.1	73.1	73.6	80.5
9 to 12	8.9	8.1	9.1	11.9
13 or more	4.0	5.6	3.2	---
Tenants	100.0	100.0	100.0	100.0
4th grade or less	9.8	8.5	10.4	14.9
5 to 8	68.1	61.0	72.1	85.1
9 to 12	18.4	24.1	15.7	---
13 or more	3.7	6.4	1.8	---

From the above named tendencies it may be concluded that lack of

education on the part of the farm operator, both tenant and owner, is associated with large households. It is customary to regard limited education as symbolic of low standards of living, and this with high genetic increase of population, to which may be added a greater tendency of families to "double up" or to absorb outside persons who may be stranded. This does not necessarily follow, but it is a matter of frequent occurrence. Partly, it may be explained as a form of division of labor. It is a means of economizing on shelter, bedding, transportation, and sometimes food, especially where the population is forced into what is popularly termed a "subsistence" level of living. In any case, the foregoing data illustrate a principle of diminishing returns as between the numerical increase of the population of households and the available resources at hand. Even though it sometimes happens that the households of a well-to-do farmer are larger, and have absorbed more distantly related dependents than those of the poorer farmer, it appears to be true that the household of the poor increases much more rapidly relative to its economic resources than that of the more substantial class of farmers.

10. Organization of Work in the Farm Family.

For the typical farm family, work habits play a primary role in the socio-economic organization of family life. It would be virtually impossible, however, to devise any technique that would register all the work done on the farm by persons of all ages, sexes, and social positions in the economic family. There are numberless chores, small tasks, and odd jobs which are done by farmers and their families which perhaps they would never record under any categorical description of labor. Especially is the field survey an unsuitable tool for determining either the quantity or the character of farm work. Only that part of the work which is associated with an economic return is likely to be remembered by the farmer

long enough to find its way into the surveyor's schedule. For these reasons the present study attempted to evaluate only the work which was done in direct connection with the growing and harvesting of the crops and the care of the livestock kept primarily as a source of current cash income. Inadequate as the data are, they reveal, at least, something worthwhile regarding the division of labor within the family in the production of the annual cash income.

The analysis of the data shows that for the entire population of 2,315 persons on the 562 farms studied, 41.6 percent spent at least a part of their time during the crop year at work on the farm. On the owner farms, 42.6 percent of the population did farm work and 40.5 percent of the tenant population were at least partially engaged in farm work. The comparative difference between the tenant and owner populations is small, and can be accounted for mostly by the greater maturity of owner than of tenant families.

There are two classes of the farm population in which there was a noticeable difference of work habits as between owners and tenants. In the owner population, only 4.4 percent of the housewives did farm work, that is work in the crops, while in the tenant group 11.6 percent of the housewives worked on farms. In the owner population the number of "non-family" persons employed on farms was 134.0 percent of the number of such persons who lived in the households, while the tenants employed only 70.9 percent as many "non-family" workers as lived in their homes. This means that in addition to having greater capacity for absorbing additional persons in the household than tenants, owners are also more able to provide labor and furnish employment to non-resident persons than tenants. In other words, the division of labor on the tenant farm because of its more highly commercialized nature is more largely within

the household itself than is true of the owner farm. This is indicative of an indubitable fact that owners have, in addition to actual field work, more uses for labor than tenants, such for example, as terracing, ditching, clearing land, building fences, hauling fertilizer, and many other types of work which are directly contributory toward the conservation and improvement of the land, and ultimately to crop and livestock production.

The organization of the farm work among household members gives a significant contrast between owner and tenant farms. Casual observation probably has suggested a widespread popular belief that tenant farmers do not utilize their labor resources as extensively as owners. Their interests seem to be concentrated primarily in their crops, while owners are not only concerned with the growing of crops but also in the maintenance of the productivity of the soil. According to this theory, when the tenant's crop is grown and harvested his work is finished. Between the period of cultivation and harvest, tenants have little use for their labor supply, and do not feel a distinct responsibility for the physical condition of the farms they operate. This in turn leads to shiftlessness, idleness, and other conditions which are reflected in their social and economic status.[15] This study is not concerned with farm tenancy as a social problem, but simply with a comparison of the social and economic characteristics of various elements of the farm population. In Table 34, the division of labor on the farms of tenants and owners is shown. That the data lend credence to an existing theory about the work habits of tenant farmers is purely incidental to the topic at hand.

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[15] See Carl C. Taylor, Rural Sociology, Rev. Ed. New York: Harpers, 1933, pp. 247-250; Lewis C. Gray, Charles L. Stewart, Howard A. Turner, and Jesse T. Sanders, "Farm Ownership Tenancy," U. S. Dept. Agric. Yearbook, 1923. Washington: Government Printing Office, 1924, pp. 569-576.

Table 34. Average Number of Days Worked on Farm During Crop Year by Workers on Farm According to Position in Households, by Tenure

Position in household	Average number of days worked per worker on farm during crop year			Percent average number of days worked by tenants was of average worked by owners
	All households	Owner households	Tenant households	
Total	124.5	126.9	121.8	96.0
Operators*	141.7	134.6	149.6	111.1
Female family head**	97.6	105.8	94.0	88.8
Children	114.6	136.7	91.5	66.9
Other persons	65.3	73.4	52.2	77.1

*Includes all persons who were directly responsible for the organization and management of the farm regardless of sex.

**Includes those who were directly responsible for management of households, but principally the wives of male operators.

The data in Table 34 show in a simple way that the farm owner utilizes the labor of his household more extensively than the tenant. It will be observed that on the whole the average number of days of farm work per employed worker in the owner population exceeded that of the tenant population by 4.0 percent. This difference is small, but its smallness is due to the fact that the tenant operator himself worked on an average 11.1 percent more days during the year than the owner operator. On the other hand, owner housewives averaged 11.2 percent more days per employed worker than tenant housewives who did farm work. Also, the children of owners worked 33.1 percent more days per employed worker than tenant children, and other persons in the owner households spent 22.9 percent more days at farm work per worker employed than persons of similar status in tenant households. The characteristic difference between owners and tenants as to division of labor in farm work is that the owner operator seems to spend much more of his time than the tenant operator in managerial

duties while the tenant must combine his management with his labor. The owner operator, apparently, is more adept than the tenant in contriving to have other persons do his farm work, while the tenant operator seems more bent on doing himself as much of his own work as possible. In any case, the farm owner operator is superior to the tenant operator in finding use for the labor of members of his family as well as of other workers who may be available.

In Table 35, the percentage distribution of persons employed on farms is shown according to the position of the workers in the household. There are very few striking differences to be noted between tenants and owners as shown in this table. Owner operators comprised 1.2 percent more of the total employed owner workers than did tenant operators in the total working tenant population. On the other hand, the proportion of tenant workers who were housewives was almost three times as great as in the owner population, the percentages being 6.1 percent for tenants and 2.4 percent for owners. Tenant children accounted for only 1.4 percent more of the tenant workers than did owner children of owner workers; but it will be remembered that the average number of days worked on farms by tenant children was only two-thirds as great as the average for owner children per child employed. Also, it may be seen that the proportion of other persons, those not members of the natural family, in the total workers employed on owner farms was practically one and one-half times as great as on tenant farms. These data, taken as a whole, indicate that the family farm is more largely a phenomenon of tenantry than of farm ownership. Altogether, 91.5 percent of all tenant workers were family members as compared with 87.6 percent for owners.

Table 35. Percentage Distribution of Workers on Farm According to Position in Household of Operator, by Tenure

Position in household	Percent of all workers from household position		
	All households	Owner households	Tenant households
Total	100.0	100.0	100.0
Operators*	58.3	58.9	57.7
Female family head**	4.1	2.4	6.1
Children	27.0	26.3	27.7
Other persons	10.6	12.4	8.5

*Includes all persons who were directly responsible for the organization and management of the farm regardless of sex.
**Includes those who were directly responsible for management of households, but principally the wives of male operators.

Table 36 shows the percentage distribution of the number of days worked on farms according to the position of the worker in the household. There is a general characteristic to be noted in the fact that 94.5 percent of the labor on all farms was done by members of the family. Whether an owner or a tenant, the farm family has most of its own labor supply.

Table 36. Percentage Distribution of Total Days Worked on Farm According to Position of Worker in Household

Position in household	Percentage of total days worked on farm by household member		
	All households	Owner households	Tenant households
Total	100.0	100.0	100.0
Operators*	66.4	62.5	70.8
Female family heads**	3.3	2.0	4.7
Children	24.8	28.3	20.8
Others	5.5	7.2	3.7

*Includes all persons who were directly responsible for the organization and management of the farm regardless of sex.
**Includes those who were directly responsible for management of households, but principally the wives of male operators.

There is a significant difference in the percentage of the total number of work days which were done by owners as compared with tenant operators.

The tenant operator worked 8.3 percent more of the total days worked by the whole tenant population than did the owner operators. Although the percentage of the work done by housewives was small for both tenants and owners, the tenant wives did more than twice as great a proportion of the work on tenant farms as did owner wives on owner farms. On the other hand, owner children did 7.5 percent more of the work on owner farms than did the tenant children on tenant farms, and other persons did approximately twice as much work on owner as on tenant farms relatively speaking. Again, this suggests that the owner operators were more adept in utilising the labor of their families and other people than the tenant operators. Apparently, the tenant household is much more dependent upon the operator himself than is the owner household for its current support. Presumably, one of the important factors in the advancement of farmers on the so-called agricultural ladder is the operator's ability or opportunity for converting the members of his household into productive as well as consumptive agents.[14]

There seems to be no definite tendency as to the number of days worked in relation to the economic status of the family. In Table 34 it was shown that the average number of days worked per worker was only 96.0 percent as great for tenants as for owners, and that on an average owner workers of each type worked longer than tenants of corresponding status in the household. It is frequently asserted by competent writers that tenure status is in some respects an index of social and economic status as well.[15] This idea has merit, although it lacks the quality of defini-

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[14] See Roy Hinman Holmes, Rural Sociology. New York: McGraw-Hill Book Co., 1932, Ch. II, for a subjective discussion of the family-farm institution.

[15] See Pitirim Sorokin and Carle C. Zimmerman, Principles of Rural-Urban Sociology. New York: Henry Holt and Co., 1929, pp. 89, 341-342; Sorokin, Zimmerman, and Galpin, op. cit., Vol. I, pp. 363-370; Carl C. Taylor, op. cit., pp. 250-260; John Morris Gillette, Rural Sociology (rev. ed.). New York: The Macmillan Co., 1922, pp. 239-240, 245-253.

tiveness. Table 37 shows that there is no precise uniformity regarding the relation of work habits to economic status, although it is possible to make the general statement that owner farmers are more intensive workers than tenants on the whole.

Table 37. Average Number of Days Worked on Farm per Employed Worker During Crop Year According to the Size of Investments Operated

Size of investment operated	Average number of days worked on farm by employed worker during crop year				
	All workers	Operators	Female heads of families	Children	Other persons
All sizes	124.5	141.7	97.6	114.6	65.3
Up to $2499	122.6	152.5	89.1	93.9	39.0
$2500-$4999	106.4	123.3	157.5	82.5	38.4
$5000-$7499	143.8	127.9	28.3	129.0	137.6
$7500-$9999	127.5	128.7	56.7	167.1	61.8
$10,000 and over	126.2	134.7	169.2	129.9	79.4

The logical generalization to be made from Table 37 is that the farm operators with the smallest investments worked the greatest number of days on the farm during the crop year. Outside that class there was a gradual increase in the average number of days worked by the operator as the size of the investment increased. For the most part, the average number of days worked per child working increased with increases in the size of the investment operated. However, this is obviously due to the age factor in the population. It requires time for the operator to accumulate a large investment. Operators with small investments frequently are young men with small children too young to do heavy farm work, while those with large investments have older children capable of doing full time work during the crop season.

Incidentally, in the winter wheat belt of Oklahoma, the plowing and seeding are done mostly in the summer and early fall while the harvesting is done in the late spring. Thus, the schooling of children interferes

very little with the crop season, which gives them a chance to work a greater number of days if needed than is typical of many parts of the State. This is another factor in the utilization of child labor which may not be applicable for the country generally.

There seems to be no definite tendency regarding the relation of the work of housewives to the size of the investment, except that in the small scale groups the wives worked fewer days per worker than the average for the total and in the larger scale groups they worked more. In the case of other persons, the average number of days worked per worker was distinctly lower in the small investment classes than in the larger. However, there was no regular increase in the average number of days worked per worker as the size of the investment increased. The substance of these statements is that on the smaller farm units the family tends to be definitely self-sufficing so far as labor supply is concerned, while in the larger units, it may or may not be, depending upon whether or not there happens to be members enough to do the required work.

11. Inferences from the Study of Farm Household Organization.

The foregoing discussion on the organization of the farm household has been centered around the idea that agriculture is a family enterprise. It has been shown that the conjugal relationship of husband and wife is the focal point of the family farm unit. This is true for tenant farmers to even a greater extent than for owners partly because tenants are younger than owners, and because of that, death has broken fewer tenant than owner families. In the owner group, 10.1 percent were families in which either the husband or the wife had died, which is to be compared with 3.8 percent of such families in the tenant population. This was offset by the fact that solitary male operators accounted for 7.2 percent

of all tenant households, whereas solitary operators of both sexes comprised only 2.7 percent of all owner households. There were no solitary female operators on tenant farms. In other words, "bachelor" farming seems to be somewhat more prevalent in the tenant than in the owner class. This leads to the conclusion that when the farm is spoken of as a family enterprise, the emphasis is to be placed upon the owner to a greater extent than upon the tenant operated farm.

Of special significance in this part of the study is the cumulative nature of the farm family as a social group. While no one family contained all the relationships found, the farm family as a unit is capable of almost indefinite expansion. Ethnically, kinship exists in every possible degree, and extends from the closest blood relation to none whatever, either blood or legal. In serving as a domicile for all kindreds, the farm home is likewise an institution of charity, a hospital for the physically and the mentally defective, a refuge for the aged, an asylum for the orphans, and an agency for the distribution of aid to many who are not even housed under its roof. The farm household performs all these functions in addition to those for which it exists, primarily the sheltering and nurturing of the bio-social family which forms its nucleus.

Economically the farm household unit is primarily an industrial workshop. It provides what is perhaps the most fundamental basis or pattern of division of labor in human society, biological on the one hand, and socio-economic on the other. Work is apportioned in large measure on the basis of age and sex as to both type and amount. Employment, counting only those of working age, varies quantitatively from virtual unemployment and irresponsibility to continuous work with responsibility. The work patterns of farm family life vary somewhat with socio-economic status, probably the most intensive workers being the owner families of fair to

moderate circumstances which have a large proportion of their children in the adolescent ages. Tenant families seem to utilize labor, both of family members and of outsiders less effectively than owner families. The status of the farm housewife as a field worker can be scarcely determined. She does comparatively little farm work. Owner wives who did farm work, spent a longer period at work than tenant wives, but relatively fewer owner than tenant wives worked in the fields.

While it is possible to interpret the economic characteristics of the farm family to some extent by the use of quantitative data, this does not go all the way. Speculative as the judgment may be, it cannot be denied that the work habits of a family, its attitudes toward saving and spending, its hospitality toward non-producing dependents of working age and ability, and many other traits falling in this class are matters of tastes, training, experience, and even racial or cultural heritage. These things can be scarcely encompassed into a survey schedule in tangible and manageable form. These factors may be of even greater significance than the more easily measurable observations which have been made. In any case, this is a phase of the socio-economic study of the farm family which invites more diligent and analytical research than that to which it has been subjected in America thus far.

PART III. FORMATION AND GROWTH OF THE FARM FAMILY

CHAPTER VI

THE ROLE OF THE OPERATOR IN THE FORMATION OF THE FARM FAMILY

1. The Position of the Farm Operator.

The farm operator is a connecting link between the farm and the family. Although agriculture is regarded as a family occupation per se, it sometimes happens that the farm may occupy a position not at all connected with a family. Farms are operated in some cases by unmarried operators for an indefinite period of time. Again, young men may operate farms for a few years as a means of obtaining a foothold in agriculture before marriage. In spite of these exceptions to the general rule, the foundation of the farm family rests ultimately upon the established connection between the operator and his land. It is for this reason that the farm operator has been taken as a starting point from which to begin the analysis of the social organization of the family proper.

The study of farm operators is organized about such factors as origin, age composition in relation to economic status, age at beginning work, the method of acquiring land, occupational experience, formal education received, and geographic mobility. It is believed that, either directly or indirectly, each of these points has a significant reference to the condition of the farm family at the time of the survey. Also, it seems highly probable that once these factors are understood in their relationships to the status of farmers, at least some of the popular suppositions regarding the untowardness of the agricultural system itself will be found to be either untenable entirely or to exist independent of the occupation of farming.

3. Origin of Male Operators.

One of the outstanding characteristics of the farm population is its distinctly agricultural origin. Perhaps there is no industry in America in which the population is so nearly self-maintaining as is true of agriculture. In this study, 93.6 percent of all farm operators included in the sample were farm reared. In the owner group 91.9 percent of the operators were reared on farms, while in the tenant class 95.5 percent stated that they had been reared on a farm. Why there should be a larger proportion of owners than of tenants who originated outside of agriculture is not known definitely. Inheritance and gifts of farms may hold a partial answer to this phenomenon as may be seen in connection with Table 51. It may be surmised, however, that the factor of age plays an important selective part in it. As will be seen later, owners are older than tenants for the most part. On the other hand, tenancy is often not only a rung on the agricultural ladder, but also an indeterminate period in a farmer's life during which he is trying to decide whether to remain permanently on the farm or go elsewhere. In other words, farm tenancy is frequently an immediate step taken by younger farmers when they leave the parental roof while ownership is remote. It is probable that inheritance is a factor in bringing a few more owners than tenants to farms from cities and towns. But the infrequency with which non-agricultural people seem to have gone to the farm in the winter wheat area of Oklahoma scarcely warrants speculation as to the probable reason for the migration of the few who did go there.

4. Age Description of Male Operators.

The age description of the 540 male operators who were living at the time the survey was made is shown in Table 38 and is subdivided according

to tenure. These data indicate rather distinctly that farm ownership is functionally related to age. In the owner group, 61.2 percent of the operators are 50 years of age or older as compared with only 20.4 percent of the tenant operators. Exactly three times as large a proportion of owner as of tenant operators were 50 years old or older. On the other hand, only 15.7 percent of the owners were below 40 years of age, as compared with 54.1 percent of the tenant operators. It is possible, therefore, to reckon from these data that only about one tenant out of every four tenant farmers will remain as a tenant after passing the age of 50 years, after which time it is probably too late for him to try to become an owner. This interpretation applies only to those tenant farmers who remain in agriculture. Obviously there is a continuous selection among tenants, since many of them are likely either to die, to quit the farm or to become owners of farms. This means that the 20 percent of the tenant farmers who are above 50 years of age actually represent a much smaller percentage of the total number of farmers who started farms with them as tenants than their existing proportion indicates. As long as there is comparative freedom in social and economic mobility, it may be expected that the larger proportion of young farmers will begin as tenants and the majority of these will become owners by the time they reach middle age, and many of the supposed evils of farm tenancy may be self-correcting.

Table 38. Age Distribution of 540 Living Male Operators for Different Tenure Groups Shown by Percentages in 10 Year Intervals

Age group	Percent of living male operators in age group		
	All operators	Owners (281)	Tenant operators (259)
Total	100.0	100.0	100.0
20-29 years	10.7	2.5	19.7
30-39 years	23.8	15.2	34.4
40-49 years	24.8	23.1	25.5
50-59 years	18.0	22.8	12.7
60-69 years	15.9	24.5	6.5
70 and over	7.8	13.9	1.2

In the sample used here there were 184 living male operators who were below 40 years of age. Of this number 76.1 percent were classed as tenants, and 23.9 percent as owners. In contrast with this, there were 225 farmers who were 50 years of age or above. In this group, 76.4 percent were owners, and 23.6 percent tenants.[1]

From the two above sets of comparisons, it may be observed that the proportion of tenant farmers who were 50 years of age or above was 30.4 percent as against the 23.6 percent of all farmers of this age group who were tenants. The point of this is, since it is shown in Table 1, that 47.0 percent of all farmers in the sample studied were tenants, the chances are around four out of five that a given tenant farmer in the area studied would become an owner if he lives to be 50 years of age and if he remains in agriculture.[2] The 20 percent who have the least chance of becoming owners of their farms, would probably never rise very high on an economic scale no matter what system of economy might be provided for them. It is reasonable to suppose that the status of tenant farmers represents as complete an adaptation to the social order

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[1]For additional discussion of this point see Howard A. Turner, The Ownership of Tenant Farms in the United States, U. S. D. A. Dept. Bul. No. 1432. Washington: Government Printing Office, Sept. 1926, pp. 31-32. His data showed that 69.1 percent of all tenants surveyed in 184 counties were below 45 years of age, while only 32 percent of the unmortgaged full owners were less than that age. Conversely, 30.9 percent of the tenants and 68 percent of the owners in his study were 45 years of age or older. His conclusion is that on the whole as farmers gain in age they gain in wealth. See also article by A. W. Ashby and others in Pitirim A. Sorokin, Carle C. Zimmerman and Charles J. Galpin, A Systematic Source Book in Rural Sociology. Minneapolis: University of Minnesota Press, 1930-32, Vol. I, pp. 535-540.

[2]It is to be remembered that in the wheat section of Oklahoma, the percentage of farm tenancy is much lower than for the State as a whole. No typical cotton county of Oklahoma in 1930 had less than 60 percent of farm tenancy, while no representative wheat county had over 56 percent of tenancy. The state average was 61.5 percent in 1930. See United States Census of Agriculture, 2nd Series, 1930, Table XII.

as they are capable of making.

Not only is farm ownership functionally related to the age of the farmer but also is the size of the investment operated. That time is a factor in building up an investment does not require evidence. The only exception to this comes in the form of the acquisition of property gratuitously. The data given in Table 39 show the age distribution of farmers in different size investment groups.

Table 39. Percentage Distribution of 540 Living Male Operators in Age Groups According to the Size of Investments in Farm Operations

Size of investment group	Total number of living male operators	Percent of farmers in each investment group who are of specified age					
		20-29	30-39	40-49	50-59	60-69	70 and over
Total	540	10.7	23.3	24.3	18.0	15.9	7.8
Up to $2499	215	20.4	33.5	22.8	13.5	7.9	1.9
$2500-$4999	64	12.5	32.8	26.6	10.9	9.4	7.8
$5000-$7499	51	3.9	15.7	23.5	25.5	21.6	11.8
$7500-$9999	68	4.4	13.2	33.8	19.1	16.2	13.3
$10,000 and over	142	.7	12.0	21.1	24.6	28.9	12.7

Ordinarily the youngest farmers are those whose operations represent in value the smallest investments. Even if they tend more land than the farmers in the declining period of life, they often have land with poorer improvements than those on the farms of men advanced in age. However, the size of the investment begins to diminish soon after the farmer is past 65 years of age, and usually grows smaller more rapidly as the farmer approaches old age because he starts living increasingly from his past accumulations which means that his inventory decreases. However, this tendency admits of rather wide variations, because of the many hazards encountered by a farmer during his earning lifetime.

8. Age of Operators at Beginning Work for Themselves in Relation to Socio-Economic Status.

In studying the farmer operator in Oklahoma, several important questions arise regarding the age at which they begin working for themselves. First, what is the average age at which the farmers of a given year began working for themselves? Second, how typical is that average of the group as a whole? Third, is there a uniform age at which farmers began work for themselves regardless of the age distribution of the group as a whole now? And fourth, does the age at which they began working for themselves bear a significant relationship with respect to their present status? So far as the farmers included in this survey are concerned, partial answer to these questions may be derived from the data given in Tables 40 and 41.

Table 40. Age at Which 540 Living Male Operators Began Working for Themselves on the Basis of Their Present Ages

Present age of operators	Total number living male operators	Percentage of operators who began working for selves at specified ages			
		Up to 19	20-24	25-29	30 and over
Total	540	39.3	50.7	8.3	1.7
20-29	58	51.7	48.3	—	—
30-39	126	47.6	38.9	11.9	1.6
40-49	151	38.2	51.9	8.4	1.5
50-59	97	35.1	57.7	5.2	2.0
60-69	86	25.6	61.6	12.8	—
70 and over	42	38.1	47.7	7.1	7.1

It will be observed from Table 41 that 90 percent of all living male operators studied here began working for themselves before they were 25 years of age. Perhaps it is significant that 39.3 percent of these operators began work on their own responsibility before they were 20 years old. The mean age at which the farmers in this study began working for themselves was 19.8 years $\pm$ 3.4, and within the range of the

standard error each way from this mean, 73.1 percent of the entire group were included. In other words, approximately three-fourths of these operators began the operation of their own businesses between the ages of 16.4 years and 23.2 years. In the greater part, it is true that, taking a cross-sectional glance at this group of farmers, there is a tendency for the older farmers to state that they began working for themselves later in life than the younger ones. There may be several contributing reasons for this which are not revealed in any possible analysis of the data. The mean ages at beginning work were as follows:

Age of farmers at time of survey	Mean age at beginning
All farmers	19.8 years
20-29	18.5
30-39	19.2
40-49	19.6
50-59	19.8
60-69	20.1
70 and over	20.4

Table 41. Age at Which 540 Living Male Operators Began Working for Themselves on the Basis of Their Present Tenure Status

Age at beginning work for self	Percent of living male operators who began working for self at specified age		
	All operators (540)	Owners (281)	Tenants (259)
Total	100.0	100.0	100.0
Up to 19	39.3	34.6	44.4
20 to 24	50.7	54.5	46.7
25 to 29	8.3	8.9	7.7
30 or over	1.7	2.1	1.2

It is to be noted that there is a consistent increase in the means of the ages at which the operators began work as their present age rises. Probably this may be due to failure of the older men to remember accurately when they began work. Psychologically this would induce a possi-

bility of bias in their answers. However, most of the farmers of this study who are now 50 years of age or older came as pioneers into the new Oklahoma-Indian territories. Frequently they were migrating young bachelors who had not begun a settled mode of life in any way. Furthermore, it seems plausible that there may have been some principle of selection operative in this. At least, it raises certain questions. Do the younger beginning farmers succeed and retire earlier? Did they go into some other business and leave the farm? Did they tend to die earlier than those who delayed beginning for themselves until a later period in life? Is the farm family gradually losing control over its members? These questions cannot be answered with assurance from this survey because there was no way by which those who had been eliminated could be reached effectively.

Rather obviously, it seems, the lower the present average age of farmers is, the lower the mean age at which they set up for themselves. They are all nearer the same starting point. But this does not explain why the older men began work later than the younger ones, nor do the data hold any clue to this that may be apprehended. In as much as the bulk of the older farmers in the study were owners, and in as much as other studies show that the younger farmers are more migratory than those who are older, and because the least successful farmers leave the farm more often than the successful, it appears reasonable that an economic selection may have been largely responsible for this phenomenon.[3] Tenants

[3]Cf. Carle C. Zimmerman, et al, "The Migration to Towns and Cities," Amer. Jour. Sociol., Vol. 32, pp. 450 ff.; Vol. 33, pp. 237-241; Jour. Farm Econ., Vol. 10, pp. 506-515. W. A. Anderson, Migration of Sons and Daughters of White Farmers in Wake County. Raleigh: N. Car. Agric. Exper. Sta. Bul. 275, June, 1930; O. D. Duncan and J. T. Sanders, A Study of Certain Economic Factors in Relation to Social Life of Oklahoma Cotton Farmers. Stillwater: Okla. Agric. Exper. Sta. Bul. 211, April, 1933. These studies suggest the thesis that the least successful elements of the farm population are more migratory than the more successful. Also

and the least successful farmers often abandon the parental home prematurely. Failing to succeed at farming, they migrate to the cities. On the basis of this general knowledge of the behavior of Oklahoma farmers, it is believed probable that the young men have a greater chance of success and of remaining on farms if they wait until they are of age before beginning work for themselves. This is, however, only an opinion. The point involved challenges further study before a definite explanation of it can be given.

The data in Table 41 lend credence to the statement that tenants tend to start working for themselves prematurely. The mean age at beginning work was 20.0 years for full owners and 19.5 years for tenants. If all farmers in the group are ranked according to the size of their operating investments and their gross annual turnover in capital, it would follow on that basis that the more well-to-do began work for themselves earlier than the less successful farmers. This suggests a principle that mainly it is the more shiftless farmers who begin running their own farms before coming of age.

From the data used in Table 41, it will be observed that 44.4 percent of all tenant farmers began working for themselves before they were 20 years of age as compared with 34.5 percent for owners. Also of those beginning work in the higher age levels there are in all cases relatively more owners than tenant farmers. Of 212 operators who began work for themselves before reaching the age of 20, there were 115, or 54.2 percent, who were tenants at the time of the survey as compared with 47 percent of tenants in the whole sample. Of the remaining 328 operators who

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that children of tenants migrate to the city more often than owners. This being true, it may be assumed in part that the migratory patterns of children and parents are somewhat similar.

began work at the age of 20 or above, only 43.9 percent remained as tenants. There were 200 operators who began work at the ages of 20 and 21. Of this number, 45.5 percent were farming as tenants. Finally, there were 128 operators who began their earning careers at the age of 22 and above, of which only 41.4 percent were still farming as tenants. In other words, the data show quite positively that farm tenancy is associated tangibly with immaturity of operators at the time of beginning work for themselves.

4. Relation of Age at Beginning Work to Economic Status.

It was thought probable that if the age of farmers has any direct relation with their present economic status, there would be a probability that the age at which they began working for themselves would be significantly associated with the size of the farms they operate. The data in Table 42 were set up in order to discover whether or not the age of farmers when they began work has any direct bearing upon the size of their present farm units. A casual inspection of the data does not lead one to believe there is a tangible relation between these two factors. This observation is borne out by a simple correlation of the two variables which yielded a negligible coefficient in which $r = +.052 \pm .043$. This means that the two variables can have only a chance relationship, with the chances rather small that there is any association whatever.

Ordinarily it would seem that the man who began operating his own farm unit early in life would have the advantage of experience and growing older he would acquire a larger farm. However, it was shown in Table 41 that relatively more full owners than tenants began farming for themselves at the age of 25 or over. This suggests that there may be an advantage in lengthening the period of preparation or apprenticeship before

assuming the full responsibility of self-maintenance. It was noticeable that the average age of farmers on larger farms at the time of beginning work for themselves was slightly higher than that of operators on smaller farms. For example, the mean age at which operators on farms of less than 160 acres began working for themselves was 19.3 years, as compared with 19.8 years for those on farms of 240 to 319 acres and 20.1 for those operating farms of 400 acres and over.

Table 42. Percentage Distribution of Living Male Operators at Age of Beginning Work for Themselves According to Size of Present Farm Operated

Sizes of present farms operated	Total number of operators	Percent of operators of farms of different sizes who began work at specified age			
		Up to 19	20-24	25-29	30 and over
Total	540	39.3	50.7	8.3	1.7
Up to 159 acres	76	39.5	53.9	3.9	1.7
160-239	154	42.2	46.1	11.0	.7
240-319	61	42.6	50.8	6.6	--
320-399	174	37.9	52.9	7.5	1.7
400 and over	75	33.3	52.0	10.7	4.0

The data in Table 42 follow no regular distribution. This is partly attributable to the land holding system in vogue in northern Oklahoma. Farms tend to vary in size somewhat in even multiples of 160 acres. The average number of acres per farm operated in Oklahoma and in the three principal counties of the survey for different census years was as follows:[4]

Area	1930	1925	1920
Oklahoma	165.8 acres	156.5 acres	166.4 acres
Alfalfa County	225.2 "	212.0 "	214.1 "
Kingfisher County	217.0 "	205.3 "	205.7 "
Logan County	144.1 "	144.6 "	167.4 "

[4] U. S. Census, Agriculture, Oklahoma, 1930, 1st Series, County Table 1.

From the above data it can be seen that the average size of farms in a given area is more a function of the type of agriculture practiced than of the age of farmers either at present or at the time they began work for themselves.

The data suggest that there is little association between the size of farms operated and the age at which farmers began working for themselves. However, it was thought that there probably would be a tangible correlation between the ages of farmers at present and the size of the farms they operated. But when these two variables were correlated the coefficient obtained was $r = +.0416 \pm .043$ which, of course, means that no significant correlation exists, at least so far as the area of this study is concerned. Hence the conclusion that age of farmers is probably not related to the size of the farm they operate except as a matter of chance. There was a tendency so small as to be practically imperceptible for the old men to continue occupying the homestead and to rent their land to someone else. The more frequent practice seems to be for the elder farmers to move off their land when they become too old to operate it themselves and to leave it to younger men.

The size of investments operated by farmers is in a slight degree related to the age at which they began working for themselves. Ordinarily, the farmer's investment may be expected to grow during the active period of his life. However, there is no reason why the investments of all farmers should grow at either the same absolute or the same relative rates. Managerial ability, climatic factors, misfortunes, soil depreciation, and numerous other conditions tend either to accelerate or retard one farmer's rate of accumulation in comparison with that of another. Not only that, but the size of the investment operated in a given year includes not merely land and capital to which a given farmer holds title, but also it embraces

all the land and capital he may have borrowed, leased, or of which he may have acquired temporary control in any way. In other words, the size of the investment operated is principally a matter of farm management, and does not necessarily represent an actual difference in economic status between farmers.

However, it is reasonable to suppose, other things remaining equal, that a farmer's ability to utilize land and capital will increase for a time, at least, with age and experience.

In Table 48 the percentage distribution of farmers in different age periods of beginning work for themselves is shown according to the sizes of investments in farm operations. It may be observed from these data that there is a slight tendency for the farmers who began work early to have smaller investments than those who began fairly late. In fact a simple correlation of these two factors produces a coefficient in which $r = +.106 \pm .042$. This relationship is very slight if at all significant, but it suggests a probability that those who began farming at immature ages became more or less fixed in their habits and practices in farming before they acquired sufficient self confidence to prompt them to attempt farming on a larger scale. Increasing the size of the operating unit in agriculture increases risk and demands a higher type of managerial ability of the farmer because the hazards of large scale farming are cumulative. The principal way to spread the incidence of risks in farming within a given area is to increase the number of people bearing the risks rather than increasing the amounts of land per operator and the number of acres planted to the same crops.[5]

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[5]See Chapter XI on "Rural Economic Organization" in Sorokin, Zimmerman, and Galpin, op. cit., Vol. II, for a discussion of this point. Also, Roy Hinman Holmes, Rural Sociology. New York: McGraw Hill, 1932, pp. 111-114; Wilson Gee, The Social Economics of Agriculture. New York: The Macmillan

Table 43. Percentage Distribution of 540 Living Male Operators According to the Size of Investment Farm Operators and the Age at Which They Began Working for Themselves

Size of investment operated	Total operators	Percent of operators of different sizes of investment who began work at specified age			
		Up to 19	20-24	25-29	30 and up
Total	540	39.3	50.7	8.3	1.7
Up to $2499	215	42.8	48.4	8.3	.5
$2500-4999	64	53.1	40.6	4.2	2.1
$5000-7499	51	31.4	58.8	7.8	2.0
$7500-9999	68	39.7	50.0	8.8	1.5
$10,000 and over	142	30.3	56.3	10.6	2.8

The theory upon which Table 44 was set up was that the earlier in life a man starts working for himself, the longer his earning period would be, the greater his accumulation of earning capital, and, therefore, the greater his total income would be. This analysis of the data, however, reveals that, at least for the crop year of 1932-33, there was no tangible association between these two factors. A simple correlation analysis gives a coefficient of correlation in which $r = +.0229 \pm .041$, which means that current incomes for the year were determined almost entirely by factors other than the age at which the farmer began working for himself.

It should be remembered that the year 1932-33 was one of the most unfavorable in the history of Oklahoma farm prices.[6] For this reason

Co., 1932, pp. 241, 248; H. R. Tolley and C. L. Holmes, Large Scale Farming in the United States. Washington: U. S. D. A. mimeographed publication, October, 1929; Agricultural Service Department, Chamber of Commerce of the United States, Washington, D. C., July 29, 1929, Large Scale Farming, p. 18; and Lewis C. Gray, Introduction to Agricultural Economics. New York: The Macmillan Co., 1929, pp. 99-119.

[6] See Lippert S. Ellis, "Oklahoma Farm Prices," Current Farm Economics Supplement. Stillwater: Okla. Agric. Exper. Sta. Publication, Table 81, p. 88. The data in this publication were carried from January, 1910, to April, 1933, but have been supplemented for subsequent months since the bulletin was published. The index of Oklahoma farm prices for the year 1932 stood at 52 and the first five months of 1933 at 52 compared with the 1910-14 base.

the cash incomes of all farmers were unusually low during the period of the study. However, the level of farm prices received was in no way discriminatory against one group of farmers as compared with another. For this reason, the belief that the relative position of different farmers with respect to other farmers of various income levels was not necessarily a function of low prices seems entirely warranted. Therefore, the comparative current earning power of different farmers must be explained in terms of other factors than the age at which they began work for themselves and the general decline in the value of farm products which all farmers experienced during the period.

Table 44. Percentage Distribution of Living Male Operators at Age of Beginning Work for Themselves According to Size of Income Received in 1932-33

Income groups for 1932-33	Total number of operators	Percent of operators of different income groups who began work at specified age			
		Up to 19	20-24	25-29	30 and over
All income groups	540	39.3	50.7	8.3	1.7
Up to $749	159	38.4	51.6	9.4	.6
$750-1499	227	40.5	49.3	7.9	2.3
$1500-2249	101	38.6	53.5	5.9	2.0
$2550-2999	26	34.6	50.0	15.4	—
$3000 and over	27	40.7	51.9	7.4	—

5. Present Age of Operators in Relation to Economic Status.

In Table 45 the average age of farmers in various cash income classes is shown for 540 living male operators of different tenure status. The most noticeable feature of this table is that there is a somewhat erratic fluctuation of the average age of farmers in passing from the low to the high income groups. For all farmers taken together, the highest average

age, 50.8 years, is found in the highest income group, and the second highest average age, 48.4 years, occurs in the lowest income group, those who received less than $750 for the year 1932-33. There is no consistency within the intermediate income groups. For owners, there is a general tendency for the average age of farmers to decline as the cash income received increased up to but not including the $3000 income group. For tenants the younger farmers were in the highest income group and the oldest farmers were those having the lowest cash incomes. In general, it may be said that the size of the income received varied inversely, although not proportionately, with the age of the farmer in the tenant class. There is, no doubt, a degree of selectivity in the intersection of the factors of age and cash income received. However, the disastrously low prices of agricultural products which prevailed from 1930 to 1933 undoubtedly exerted a disrupting influence upon the usual relationships which obtain in relation to age and income earning ability. While it is not known that the period of low prices actually militated against one age group of farmers any more than another, it is more than probable that those receiving the greatest backsets were those who had only relatively small equities in comparatively large holdings because of the difficulties which they experienced in adjusting their fixed costs to their current incomes.

Table 45. Average Age of 540 Living Male Operators of Different Tenure Status According to Cash Income Received in 1932-33

Cash income groups, 1932-33	Average age of farmers in each income group		
	All farmers	Owners	Tenants
All income groups	47.4	54.3	39.9
Up to $749	48.4	60.0	46.1
$750-1499	47.5	54.8	39.7
$1500-2249	44.9	50.0	37.6
$2250-2999	46.0	49.6	38.0
$3000 and over	50.8	52.9	39.0

In Table 46, the age distribution of living male operators is shown according to cash income received in 1932-33. There is a feeble indication in these data that incomes increase with advancing age of the operator up to around age 55. After then, the income received declines as the age of the farmer increases. Assuming a straight line relationship between age and current income of farm operators, it was found that the simple Pearsonian correlation between these two factors in this study is only $r = +.0409 \pm .0428$. This, of course, indicates that for the group as a whole, there is only a chance relationship between age and income. If the cases in which the operator was 60 years of age or over are eliminated, the coefficient of simple correlation between these two factors becomes significantly higher. By making this adjustment, it was found that $r = +.195 \pm .047$. Judged by the principle that a coefficient of correlation to be significant must be greater than three standard errors, this new coefficient indicates a tangible, though small, correlation between the age of the operators and the incomes they received.

Table 46. Age Distribution of 540 Living Male Operators According to Cash Incomes Received in 1932-33

Cash income groups	Total number of farmers	Percent of farmers of each income group who were of age specified					
		20-29	30-39	40-49	50-59	60-69	70 and over
All income groups	540	10.7	23.3	24.3	16.0	15.9	7.8
Up to $749	159	15.7	16.4	22.0	15.7	18.2	12.0
$750-1499	227	7.5	26.9	22.9	20.7	14.5	7.5
$1500-2249	101	11.9	30.7	23.7	12.9	17.8	3.0
$2250-2999	26	11.5	15.4	42.3	15.4	11.5	3.9
$3000 and over	27	3.7	14.8	33.4	29.6	11.1	7.4

Any conclusion which may appear justified from the foregoing must be carefully restricted. In early and middle life, it is common observation

that as the farmer accumulates experience, capital and additional supplies of family labor, his income and earning ability will increase under ordinary conditions. It is reasonable to suppose that with increased experience, his managerial ability will improve, that with increased capital he can both expand and intensify his operations, and with an increased labor supply he cannot only utilize more fully the land and capital he already employs in a more effective manner, but also he will be able to employ more of both land and capital. Therefore, his yearly income ordinarily should increase. However, after the farmer passes middle life, his own physical vigor starts to decline, his children leave home, he must operate smaller units of land and capital, and unless he has accumulated a large investment to pay him interest and rent to supplement his yearly farm operations, it is to be expected that his annual earnings will decline. In other words, this suggests that in the study of the factors of age and income, there is a principle of limits within which a given interpretation may apply and beyond which it will be inapplicable.[7]

After studying the age of farm operators in relation to tenure status, the number of acres of farm land operated, the size of investment operated, and the cash income received in 1932-33, it appeared desirable to find out the degree to which the length of earning life is related to the net wealth accumulation of the operator. The net wealth of an operator is found by adding together the value of all holdings from which sum is deducted the

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[7]For a discussion of this point in social research, see Pitirim A. Sorokin, "The Principle of Limits Applied to Problems of Causal or Functional Relationship Between Societal Variables and the Direction of Social Processes," Pub. Amer. Sociological Society, XXVI, No. 3, 1932, pp. 19-27. Also for discussion of the economic life history of the family, see Sorokin, Zimmerman and Galpin, op. cit., Vol. II, pp. 31-33.

total indebtedness of the operator. The length of earning life is found by subtracting the age at which the operator began work for himself from his age at the time of the survey. It was thought that the total earning period of the operator would be a more exact measure of his earning ability than either the age at which he began work or his present age.

In Table 47 the 540 living male operators have been grouped into convenient classifications on the basis of net wealth. It was found that 25, or 4.6 percent, of these men had debts which were greater than the total value of all the tangible wealth they possessed, and 43.2 percent of the operators had net accumulations of less than $2500, 32 percent ranged from $2500 to $9999 and 21.2 percent of them had a net worth in excess of $10,000. However, the distribution of net wealth among these farmers is somewhat erratic. The range in net wealth was from minus $3750 up to $45,000. On the other hand, the earning life of the operators varied from one year to 67 years.

Table 47. Percentage Distribution of 540 Living Male Operators in Periods of Earning Life According to Net Wealth

Net wealth groups	Total farmers	Percent of farmers of each wealth group in each period of earning life			
		Up to 14	15-29	30-44	45 and over
Total	540	21.7	36.3	27.8	14.2
Less than 0	25	24.0	60.0	12.0	4.0
0 to $2499	233	34.4	38.2	21.0	6.4
$2500 to $9999	172	14.0	40.1	29.6	16.3
$10,000 and over	110	6.4	20.9	42.7	30.0

The grouping of the data as shown in Table 47 is somewhat deceptive. Omitting those who are entirely insolvent, it would appear from this table that there is a pronounced tendency for net wealth accumulations to increase with the length of earning life. However, when the data are

divided into more minute classifications which are not shown in tabular form, it will be seen that the scattering is so great as to render highly questionable any conclusion of this kind. It was found by a simple correlation of the data as distributed in greater detail that the coefficient of correlation between length of earning life and net wealth accumulated by the farmers of this study is only $+.0467 \pm .043$, which is so small as to be negligible. These data indicate, therefore, that most farmers are no better off after they have worked twenty-five or thirty years than after working only five or ten years. Even if they rise on the tenure ladder with the passing of time, as was shown above, if the size of their investments operated increase, which must be done if they are to rear their families, they must also face hazards proportionate to their socio-economic advancement.

What these things amount to in the final analysis is that while the farmer usually improves his standard of living as he grows older, at least until late middle age, he is likely to face insecurity in old age. As incomes rise, which has been shown already, the farmer spends more in absolute amounts for living, and more in both absolute and relative amounts to meet the costs of production. Therefore, the net accumulations of the farmer, in most cases represent the residue which is left after increasing costs of living and production have been met. In previous parts of this study, attention has already been given to the principle of diminishing returns in agriculture, and no doubt it is because of the existence and operation of such a principle that the net accumulations of farmers are not always proportionate to the length of their earning lives.

There is another factor which partly explains this point. Already

it has been indicated in this study that while the number of acres of land farmed, the size of the investment operated, and the cash income received, tend to increase as a rule up to about age 55, there is a tendency for all these factors to diminish after that age has been passed. Even though a few farmers may continue to operate on a large scale after age 55, the bulk of them enter into their decline at about that age. Their children are usually leaving home rapidly, and both their farms and their families start disintegrating. Not infrequently the process of division of the farm unit among children begins around that age. After that time, as a rule, the farmer begins to live more as a consumer than as a producer of wealth, which means that he begins to use up his accumulations of past years.

There is still another aspect of the problem which deserves speculative attention at least. If it is true that longer working periods for farmers mean longer earning periods and greater possibilities for accumulating wealth, they also mean that there are more chances for reverses and failures. After middle life has been reached, the older a farmer becomes, the more severely he may suffer if financial reverses overtake him because with advancing age his ability to recover from strain when stress is finally removed often grows weaker. A farmer who at the age of 45 may have been able to weather the crisis of 1920-21, would probably be unable to recover from the depression of the early thirties, because he had already begun to live on past savings when the crash of 1929 came upon him. It is because of things of this kind that the net accumulations of farmers cannot be expected to continue growing with the advance of age.

6. Method of Acquiring Ownership of Land.

The method by which the ownership of land is acquired has bearing upon the socio-economic organization of an agricultural community. In Oklahoma the majority of all farmers, 61.5 percent in 1930, are tenants, while in the north central winter wheat area a small majority, approximately 53 percent, are owners. This difference is due in a large measure to the land settlement policy which was adopted by the federal and state governments when the territory was opened to white settlers. In the north central wheat area, very little land was reserved for Indians, which means that most of it was opened for occupancy without restriction. In the Indian reservations land could be rented but not bought. This is a factor making for more farm tenancy in the counties with heavy Indian populations than in those where there are few Indians. The number of Indians is insignificant in the area in which this study was conducted. For that reason the distribution of the ownership of land is first of all a matter of prior occupancy, and second, of economic survival. The interference of governmental policy with the usual processes of socio-economic capillarity has been negligible in the north central winter wheat area, at least prior to 1933.

Altogether, there were 312 operators who owned farm land, as is shown in Table 48. Of this number, 214 or 68.4 percent, were full owner operators, 84, or 26.9 percent, were additional owners, making a total of 95.3 percent owners, and 14 or 4.7 percent were tenant farmers who owned land they did not operate themselves. Of the 14 tenant farmers, 9 had inherited the land they owned and five had bought it on an amortization plan of some kind.[8] Also, it may be seen by referring back to Table 1

[8] It is to be recalled that the tenure status of the operator was determined relative to the farm unit operated, and has no reference to land owned elsewhere but not under the personal management of the farmer.

that 55.0 percent of the farmers of this study owned at least a part of the land they operated. But if the number of tenant operators who owned land which they did not occupy be added to those who owned part or all the land they operated, it will be found that 55.5 percent of all farmers in the study were land owners. Also 5.3 percent of the tenant farmers are actually land owners, which in effect reduces the percent of landless farmers from 47 percent to 41.7 percent.

Table 48. Percentage Distribution of Farmers Acquiring Ownership of Land by Various Methods According to Size of Land Holdings

Sizes of land holdings in acres (owned land only)	Number of land owning farmers	Method by which land ownership was acquired				
		Amortization	Homesteaded	Cash purchased	Inherited farm	Not ascertainable
Total	312	38.5	17.3	11.9	9.3	23.0
Up to 159 acres	57	36.8	15.8	12.3	21.1	14.0
160 to 239	170	35.9	18.2	12.4	5.3	28.2
240 to 319	20	40.0	20.0	0.0	20.0	20.0
320 to 399	38	50.0	10.5	10.5	5.3	23.7
400 and over	27	40.8	22.2	18.5	7.4	11.1

However, the object in showing the data in Table 48 is to present a rough idea of the prevailing methods by which the ownership of farms has been acquired in the winter wheat area of Oklahoma. Almost two-fifths, 38.5 percent to be exact, of the farms of this study were purchased on the amortization plan, while 17.3 percent were acquired by homesteading. It is obvious that homesteaded farms will pass into the hands of other owners when the present generation relinquishes its occupancy. This will no doubt increase the number of farms acquired by purchase and by inheritance for future generations.

In these data there are no significant uniform tendencies as to the most favored method of acquisition relative to the size of the farm. In many cases it was impossible either to learn just how the farm was acquired

or to determine the principal means of acquisition. Particularly, was this true of farms occupied by widows and operated by their children, especially when the informant was a child of an owner who had died many years ago. The significant thing about this table is that, Oklahoma being a new state, it is logical to suppose that in the future the proportions of purchased and inherited farms will increase while the ownership of homesteaded farms will disappear.

Inheritance has played relatively an unimportant part among the bulk of the farmers included in this study. As has been indicated already, the factors mainly responsible for this are: First, the comparative youth of the area; and second, the settlement of Oklahoma to a large extent by a class of propertyless migrants who came to this region in order to get the benefits accruing from cheap land and to establish themselves so that they might be able to give their children a fair start in life. Obviously, cheap land has its advantages, but it is also burdened with many disadvantages. When the early settlers came to Oklahoma, they were not only in search of land but also in quest of other forms of wealth. Many of them had neither. They had to learn new methods of farming and had to face panics and droughts. Even if the land was given them, they were often without resources to enable them to make a crop. They not only had to build homes, but also they were forced to build roads, schools, churches, and a political state. Taxes were high, building materials dear, and reserves low. As a result many of these settlers could not hold the lands they received, and were either forced to let their titles lapse, sell them, or have them foreclosed for the payment of taxes. And, of course, there were others who were shiftless and disposed of their lands for mere trifles rather than endure the struggle of helping to build a new civilization.

As may be seen in Table 49, only 9.3 percent of all farmers visited in this survey had inherited land and 13.3 percent had received legacies in the form of money. A preponderant majority, 74.4 percent, received nothing except what they had earned. The tenant farmers in this area had apparently come from the poorer families, because only 3.4 percent of them had received land and 9.9 percent had received money by inheritance. Not only did a smaller proportion of tenants than owner farmers receive inheritances, but the amounts of both land and money which they did inherit were only a little over one-third as large as those inherited by owner farmers. This suggests the hypothesis that even in an area as new as Oklahoma the forces which drive people toward the lower economic levels seem to lie generations behind them. However, there is an extenuating factor in that the tenants are younger on the whole than owners, and many of them are heirs to property they had not received. Whether they will receive inheritances or not will depend upon their own survival and the preservation of equities in estates now held by their families.

Table 49. Proportion of Farmers Who Inherited Land or Money and Average Amounts Inherited by Those Receiving Legacies of Either Kind, by Tenure

Type of inheritance received	Proportion of farmers who inherited land or money and average amounts received by those inheriting		
	All farmers (562)	Owners (298)	Tenants (264)
All farmers	100.0	100.0	100.0
Percent inheriting land	9.3	14.4	3.3
Percent inheriting money	13.3	16.4	9.9
Percent inheriting nothing	77.4	69.2	86.8
Average amount of land inherited	124 acres	139 acres	56 acres
Average sum of money inherited	$2536	$3206	$1273

Of great importance to the farmer himself is the problem of making the first step in buying a farm. No doubt there are many renters who would

become owners if only they were able to make the initial payment on a farm. In Table 50 the various efforts by which this difficulty has been met are shown. The prevailing method of buying land is upon the farmer's own personal initiative, for it was found that 58.7 percent of all farmers in the group who owned land purchased it without the aid of anyone. The second most popular source of assistance is the banks and the finance or loan companies including the governmental loan agencies. Except in cases of inheritance, either wholly or in part, relatives seem to have offered very little assistance to the farmers in this study when they bought their land. While the exact extent of the practice is unknown, it is a fact that many of the first mortgages have passed from the hands of the original vendors to loan agencies, and it is highly probable that a much larger proportion of the mortgages are held by these companies now than was true when the purchases were first made by the present owners. Refinancing is a frequent method of reducing the annual payments, and this is often accomplished through the medium of a loan agency.

Table 50. Types of Assistance Which Land Owning Farmers Received When Buying Farms According to the Size of Farm Owned

Size of farm owned	Number of owning farmers	Percent of farmers receiving type of assistance			
		No assistance received	Aid from relatives	Banks and finance companies	Other means and unknown
Total	312	56.7	5.1	32.0	4.2
Up to 159 acres	57	56.1	7.0	26.3	10.6
160 to 239	170	63.0	2.9	30.6	3.5
240 to 319	20	50.0	10.0	35.0	5.0
320 to 399	38	47.4	7.9	44.7	--
400 and over	27	59.3	7.4	33.3	--

From Table 50 it may be observed that the larger the farm purchased becomes the more likely it is to be handled aside from the assistance of

relatives and that of uncertain sources. And, while the practice is not uniform, perhaps because of the smallness of the sample, there seems to be a tendency for the larger farms to be purchased more often through a loan agency than is true of smaller farms. While the study does not wholly justify the statement, it suggests that as farming tends to become more capitalistic in nature, and the larger farms of this area are certainly capitalistic, there is a greater dependence of the farmer upon the impersonal services of banks and loan agencies when buying a farm.

There is one mitigating factor in the situation regarding land ownership in the wheat area of Oklahoma in the future. That is, there is a high proportion of the farm tenants who are related to their landlords. For the counties of this study, the figures for 1930, the only data available on this point, were as follows:[9]

Area	Percent of tenants related to landlords	Percent of farm tenancy
Oklahoma, State	14.9	61.5
Logan County	17.3	60.9
Kingfisher County	30.4	48.6
Alfalfa County	46.2	43.0
Garfield County[10]	35.2	47.6
Major County[10]	38.7	46.1

Except for Logan County, only a part of which lies within the winter wheat area, it would seem that a large share of the tenant farmers are potential heirs to the land they operate. This will not be so much a factor in reducing the total amount of farm tenancy in these areas as in facilitating the acquisition of ownership for the oncoming generation of sons of the present owners of the land. This probable tendency toward greater inheritance of land in the area may result, however, in an increas-

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[9]Sources: Bureau of Census, Agriculture, Oklahoma, 2nd Series, 1930, County Table XII. There are no data on kinship of tenants and landlords in Oklahoma prior to 1930.

[10]Contiguous to counties surveyed.

ing difficulty for the totally landless farmers to become owners even if they should desire to do so.

7. Occupational Experience of Farmers.

A glance at the occupational experiences of the farmers of this study will prove helpful in several ways. First, it will give an idea of the socio-economic coloration of the group being studied. Second, it will assist in providing an explanation of the economic stratification found among these farmers. Third, it will give the social engineer pertinent facts which will be needed when and if a program calling for a redistribution of the social resources of the community is finally set up. One of the most important needs of the leaders in social and economic planning is simple and concrete factual data on the skills and experiences which a people possess that may be utilized in fitting them into a new economic system.

The data presented in Table 51 show the number of farmers divided up by 10-year intervals of their employed or earning lives, and the percent of each of these groups who have been employed in various types of occupations. It may be observed at once that of the 538 living male operators from whom usable information was available, agriculture had been the most important source of prior occupational experience. Taken as a whole, it may be seen also that agriculture was comparatively more important as a background for the older farmers than for the younger ones. Only 19.7 percent of the operators who had been employed nine years or less either began work or had ever worked as farm hands. The proportion having such experience increased progressively with advancing age until 66.7 percent of those who had been employed 50 years or longer had worked a part of their lives as farm hands.

Table 51. Percent of Living Male Operators in Ten-Year Periods of Earning Life Who Have Been Engaged in Occupations Specified*

Occupational groups**	Percent of all farmers having prior experience	Percent of farmers in each period of earning life having been engaged in occupations specified					
		Up to 9	10-19	20-29	30-39	40-49	50 and over
Total	533	66	108	136	100	84	39
Farm hand	43.5	19.7	30.6	48.8	48.0	53.6	66.7
Cropper	20.4	24.2	16.7	21.1	23.0	21.4	15.4
Farm tenant	65.3	69.7	70.4	73.2	62.0	52.4	53.9
Owner operator	52.9	10.6	51.5	48.8	69.0	75.0	94.9
Unskilled labor	14.4	3.0	19.4	16.2	14.0	14.3	15.4
Semi-skilled labor	10.3	9.1	15.7	11.4	9.0	7.1	10.3
Skilled labor	1.7	—	.9	1.6	3.0	2.4	2.6
Sales work	2.4	—	.9	4.1	4.0	3.6	—
Clerical	.9	—	—	.8	2.0	—	2.6
Managerial	.2	—	—	—	1.0	—	—
Business (prop.)	1.7	—	—	1.6	2.0	3.6	5.1
Professional	3.4	1.5	4.6	4.9	3.0	3.6	—

*It is to be noted that the percentages given in this table as well as those in Table 53 do not represent a composite whole. In other words, these data are in a discrete series. There is much overlapping in the numbers and types of occupations in which these farmers have been engaged. A similar procedure was followed by P. G. Beck and C. E. Lively in presenting this type of material. See Movement of Open Country Population in Ohio. Columbus: Ohio Agric. Exper. Sta. Bull. 489, 1931, pp. 12-14. It will be noted that for seven living male operators the information was not given in sufficient accuracy to admit of classification.

**Occupational classifications used in this study are as follows: Farmer, or agricultural, farm laborers, croppers, tenants, farm owners, farm managers, all other farm occupations; unskilled labor, all day laborers, teamsters, helpers, miners, general oilfield workers, common labor, etc.; semi-skilled laborers, mechanics, bosses on road work and construction, electricians, repair-men, personal services such as barbers and manicurists, and other types of work requiring some preliminary training; skilled labor, engineers, machinists, masons, and various kinds of high grade labor requiring either prolonged apprenticeship or technical training in trade schools and colleges; sales, salesmen in stores, traveling salesmen, agents, etc.; clerical, bank clerks, bookkeepers, stenographers, timekeepers, etc.; managerial, superintendents, managers of businesses, etc.; business, proprietors of stores, or business establishments; professional, lawyers, physicians, dentists, ministers, teachers, graduate engineers, etc.; miscellaneous, unknown, unascertainable, unemployed, etc.

It is possible either that the older men had fewer alternatives for employment than the younger or that the younger farmers were able to begin farming higher up on the agricultural ladder than the older men. The latter assumption seems the more plausible, because a careful scrutiny of the table reveals that except for professional work, mostly teaching, the younger farmers have been much less often employed outside agriculture than those of middle age and older. However, 69.7 percent of the men who had been employed less than 10 years either had been or still were farm tenants only. Of those who had been employed 50 years or longer 53.9 percent had been farm tenants, and except for chance fluctuations, it seems that the proportion of farmers who either had been or were still tenant farmers declines with advancing age. The apparent discrepancy in these two statements arises out of the fact that relatively more young men than old ones began farming as croppers. Rightly it may be asked, why did the former generation begin mostly as farm hands while farmers of the present time are more likely either tenants or croppers? While the data do not prove it, the answer seems to be that in the wheat area, the machine, notably the tractor and the combine which are comparatively recent inventions, have made the farm hand a rather useless adjunct to the farm, whereas in former years he was almost a necessity. The young farmer is, therefore, either forced to begin work as a tenant or as a cropper, or to go into non-agricultural work entirely. In the north central winter wheat area of Oklahoma it is apparent from the data previously shown that one of the most important processes by which the young farmer is enabled to begin as a tenant is that of dividing the family farm and of displacement of fathers by sons as farm operators. It may be recalled that in Alfalfa County 46.2 percent of the tenants in 1930 were related to their landlords.

As is to be expected, the proportion of farmers who have been owner operators increases progressively with age. This point has already been discussed in an earlier part of this study. In the first place, to become a farm owner requires a long time, and second, there is a heavy exodus to the cities among the propertyless, especially the landless class of farmers.

Finally, it is noteworthy that unskilled and semi-skilled labor are the only non-agricultural occupations into which significant proportions of the farmers of any age group had been employed. Smaller proportions of the farmers with less than 10 years of their earning lives behind them have been employed as city laborers than of those who have worked 50 years or longer. However, smaller proportions of these old men have been employed in non-agricultural labor than of those in early middle life. The apparent explanation of this seems to be that for a generation, at least, prior to the World War there was an ever increasing demand for industrial laborers, but soon after the war, this demand slackened until for four or five years before the onslaught of the depression in 1929 it became increasingly difficult for young men from farms to find non-agricultural employment, particularly in the ordinary industries. Farm-reared boys began in increasing numbers to go to college to secure training for the professions, and once they found work after such training, they did not return to agriculture as their fathers had done before them. However, this is only an observation which would be exceedingly difficult to prove by statistics.

An important question which may be raised is, does the length of apprenticeships served in various occupations vary with the age of the farmer? To be sure, the total number of years employed increases with age. But the point is, did the older farmers remain as farm laborers,

croppers, tenants, or as non-agricultural laborers longer than the younger farmers, granted that each has served all the time he ever will in a given capacity? In certain instances a conclusive answer cannot be given, while in others there seems to be little doubt. The data in Table 52 show the average number of years spent in given occupational classifications by farmers of different periods of earning life.

Table 52. Average Number of Years Worked by Those Farmers in Different 10-Year Periods of Earning Life Who Have Been Engaged in Occupations Specified

Occupational groups	All farmers	Average number of years worked in specified occupational group by farmers in each 10-year period of earning life					
		Up to 9	10-19	20-29	30-39	40-49	50 and over
All occupations	27.4	6.0	14.7	24.4	34.4	44.1	54.8
Farm hand	5.4	2.9	4.3	5.2	6.0	6.2	7.8
Cropper	8.6	5.1	9.8	11.3	7.9	9.4	4.7
Farm tenant	13.3	4.9	9.6	15.2	17.9	19.0	16.0
Owner operator	22.8	4.6	8.8	17.1	8.0	47.7	36.7
Unskilled labor	5.6	2.0	4.7	4.0	6.5	8.5	10.0
Semi-skilled labor	6.1	2.6	4.6	5.8	4.2	1.7	12.8
Skilled labor	15.0	—	9.0	22.5	12.5	8.0	20.0
Sales work	7.0	—	7.0	8.0	6.7	6.7	—
Clerical	13.0	—	—	23.0	2.0	—	40.0
Managerial	16.0	—	—	—	16.0	—	—
Business (prop.)	11.0	—	—	1.5	17.5	4.7	19.0
Professional	9.0	2.0	9.6	6.7	21.0	8.3	—

Farmers who have worked 50 years or longer spent on an average 7.8 years as farm hands, where they have worked in that category at all, while those with less than 10 years employment experience who have been farm hands have spent only 2.9 years in that capacity, and the average time spent as farm hands increased consistently with the age of the farmers as does the proportion of men who have been farm hands. The average length of employment as croppers was largest for the middle-aged farmers, and shortest for the extreme upper age group. The significance of this

is not at once apparent, however, as smaller proportions of the men having been employed 50 years or longer had been croppers than of any other age group. Because of the fact that the process of becoming a farm owner is relatively slower than that of passing from a farm laborer to the status of a cropper, and of emerging from the cropper status into that of a tenant, the period of tenancy lengthens perceptibly with age but only in about half as great proportions, or even less. The average length of the period of farm ownership is likewise closely associated with age in the extreme age groups, but among middle aged farmers the average period of farm ownership varies violently. In non-agricultural labor, the average length of employment periods seems, with chance exceptions, to rise with age. In the professional and business occupations, the numbers engaged and the length of employment are too uncertain and variable to admit of any generalization whatever. All in all, it seems that in those occupations which are frequently filled by farmers in early life, there is a recognizable tendency for the average period of employment to increase with the average length of earning life of the farmer, even in occupations in which there is no obvious reason why this should be true.

The past experiences of farmers are reflected somewhat in their present tenure status. Frequently it has been asserted that tenure status is in a large way indicative of social position among the farm population. However, such a blanket statement is not to be taken at face value, because an owner in one type of farming area may be worse off than a tenant in another, and in the same area a small owner may not maintain an adequate a standard of living as a large scale tenant. But progress toward ownership in a given farming region is generally taken to be indicative of increasing security and elevated standard of living.

In the winter wheat area of Oklahoma, as shown in Table 55, almost identical proportions of owners and tenants had been farm hands. Relatively more tenants than owners had been croppers. Because of the fact that the cropper does not exist in the winter wheat section in the sense in which this type of farmer is known in the cotton belt, this is taken, for one thing, to be indicative of greater territorial mobility on the part of tenant than of owner operators. Undoubtedly there is some migration from areas of higher tenancy to the winter wheat section and with the change of residence there is a change of status as well. Also, it is probably associated with the fact that tenant farmers on an average were younger than owners, and, therefore, were both less selected as a group and had come up under somewhat different economic conditions in reference to acquiring status on the land. It will be recalled from data previously presented that an appreciable proportion of owners had either inherited or homesteaded their land, while this was true of tenants to only a negligible extent. Also, only 51.1 percent of the owner operators as compared with 80.8 percent of the tenants had had prior experience in farming as tenants. In other words, it appears that owners as a class have pursued the route of the "agricultural ladder" in acquiring ownership much less often than will be necessary for the existing generation of tenants if they are ever to acquire the status of farm owners.

The data given in Table 55 seem to show that the proportion of farmers who have been tenants prior to acquiring their present status is in inverse relation to their present position on the agricultural ladder, and the proportion who have been owners varies directly with present position on the agricultural ladder. It is surprising in this study that only two percent of the tenant farmers had once been owner operators, but had fallen back to the position of tenants. Generally, it is believed that there is a

much higher proportion of owner farmers than this who lose their footholds and revert to tenancy. Evidently the often heralded tragedy of a farmer being sold out under the sheriff's hammer, though a real misfortune to those who have experienced it, has been greatly exaggerated as to its frequency so far as the existing farm population is concerned. Either this thing does not happen as often in the winter wheat area as is popularly believed or farm owners who have been dispossessed have abandoned agriculture and have been replaced by tenants in large numbers. At any rate it does not seem to have occurred sufficiently often to be alarming in this part of Oklahoma.

Table 53. Percent of Farmers of Different Tenure Status Who Have Been Engaged in Occupations Specified

Occupational groups	Percent of farmers in present tenure status having been engaged in occupations specified		
	All farmers	Owners	Tenants
Total number	533	278	255
Farm hand	45.5	43.2	45.9
Cropper	20.4	18.0	23.1
Farm tenant	65.5	51.1	80.8
Owner operator	52.9	100.0	2.0
Unskilled labor	14.4	10.1	19.2
Semi-skilled labor	10.3	7.9	12.9
Skilled labor	1.7	2.2	1.2
Sales work	2.4	2.5	2.4
Clerical	.9	1.1	.8
Managerial	.2	0.0	.4
Business (prop.)	1.7	2.2	1.2
Professional	3.4	3.6	3.1

Greater proportions of tenant farmers than of owners had been employed previously in non-agricultural labor, especially in the unskilled and semi-skilled grades. This was to be expected not only because of age differences between tenants and owners but also because being older, owners did not have equal opportunities with tenants to work outside of agriculture

when they were young. In other types of urban employment, the proportions of each class who were employed were too small to justify generalization. However, owner operators had more often tried their hand at the skilled trades than tenants, if the data can be regarded as pointing toward a definite indication. Taking all classes of occupations from skilled labor to the professions, the data showed previous experience for 11.5 percent of the owners and 9.0 percent of the tenants of ascertainable occupational history. Altogether, it seems that the tenant farmer is more likely to have had a varied occupational career than the owner, which in some measure may be associated with his retarded progress on the agricultural ladder.

In Table 54 the average length of stay in previous occupations is shown for those farmers who have tried them. Owner farmers being older than tenants on an average, their average period of employment is much longer than that of tenants. More detailed analysis of the data than is shown in Table 54 indicates that the length of the employment period increases as farmers advance toward ownership. The reason for this is too obvious to require discussion because of the time required for a farmer to save enough with which to make the initial payment on a farm at all possible, and because the age of the farmer increases as a rule with progress toward the status of an owner.

Owner operators worked on an average of 5.4 years as farm hands and tenants 5.5 years. The average period of experience as croppers lengthens perceptibly from 6.4 years for owners to 10.4 years for tenants. This is not a matter of age of farmers altogether. First, the wheat area of Oklahoma is a highly mechanized farming region and few hired men are needed, which would tend either to push young men into the ranks of tenants or out of agriculture entirely. In the second place, it is an area where the

cropper as he exists in the Old South is almost unknown, and the owners who came into the area early would have had little opportunity to work as croppers, while the tenants who had been croppers would have been forced to work in that capacity mostly in other parts of Oklahoma or the South. It was shown in Tables 51 and 52 that relatively more of the older farmers than of the younger had worked as farm hands and croppers and that they had worked longer in these positions than the younger men. Since the tenants are known to be generally younger than the owners, it seems that the explanation of this phenomenon must lie outside the factor of age. Possibly it is due to an infiltration of farmers from the timber and cotton areas into the winter wheat belt. Seemingly more of the tenants of this region have lost time getting started either by working in non-agricultural labor or by trial and failure in other agricultural areas than is true for owner operators in this section.

Table 54. Average Number of Years Worked by Farmers of Different Tenure Status Who Have Been Engaged in Occupations Specified

Occupational groups	Average number of years worked in occupation specified by farmers of different tenure status		
	All farmers	Owners	Tenants
All occupations	27.4	33.9	20.0
Farm hand	5.4	5.4	5.5
Cropper	8.6	6.4	10.4
Farm tenant	13.3	10.1	15.4
Owner operator	22.8	22.9	15.6
Unskilled labor	5.8	6.2	5.3
Semi-skilled labor	6.1	6.3	5.9
Skilled labor	14.1	14.0	14.3
Sales work	7.0	5.4	9.3
Clerical	13.0	15.7	10.0
Managerial	16.0	--	16.0
Business (prop.)	11.0	15.7	8.3
Professional	9.0	9.9	7.8

On the whole, it seems again from Table 54 that tenant farmers were

less stable when they tried non-agricultural labor than were the owner farmers. The data, where adequate, show that in non-agricultural labor, the farmers who are now owners stayed about one and one-half times as long as tenants who tried these occupations. It cannot be claimed on this basis, however, that occupational mobility is in itself contributory to retarded advancement on the agricultural ladder. It may be associated with other characteristics of the farmer himself which are of equal, or even greater, importance to frequent shifting. Too often occupational mobility is regarded as the principal explanation for the unfortunate condition of the tenant farmers, while it is almost as often a trait of the aggressive and the successful as of the slothful and unsuccessful. Mobility is a phenomenon of the one extreme of human society as well as of the other.[11] This point is taken up more minutely in other parts of the study.

8. Education of Farm Operators.

Ordinarily, it is somewhat difficult to associate education with socio-economic status of farm operators. It is true that as a general rule the educational attainments of the more successful farmers are higher than those of the less successful. However, there are many fortuitous conditions which may either accelerate or advance the economic status of a farmer regardless of his education. For example, the discovery of oil on a farm, droughts, infestations of pests, and many other providential factors are visited upon farms irrespective of the personal characteristics of the operator. In an earlier study of the cotton growing area of Oklahoma, it has been found that the proportion of farmers with less

[11] For a discussion of the effects of mobility, see Pitirim Sorokin, Social Mobility. New York: Harpers, 1927, pp. 493-546.

them a grammar school education varied inversely with tenure and economic status, while the proportion with a high school education or more varied somewhat directly with tenure and economic conditions.[12] All the available data lead one to believe that education is a factor in the economic success of a farmer, although it is not always possible to measure its exact influence in that direction.

From Table 55 it may be observed that 76.6 percent of all farmers ended their schooling with the eighth grade. But by referring back to Table 40 it may be seen that 61.7 percent of the male operators in the sample began work for themselves after they were 20 years of age or over. Assuming that the farmer started to school at six years of age, and allowing two extra years for loss of time due to one cause or another, he would in the majority of cases be out of school before he reached the age of seventeen. Certainly, this is a reasonable assumption, and at all hazards it can be maintained that the average length of time the farm boy goes to school in no way offers an obstacle to his beginning work for himself as soon as he is old enough. On the other hand, 51.0 percent of the entire sample actually finished the eighth grade, and the average number of grades finished was 7.8. This mean plus or minus its standard error of 2.6 years embraces 72.8 percent of the entire sample. In other words, there is a considerable "clustering" in the sample around the mean. Among owner operators, 34.0 percent stopped school below the eighth grade as compared with 14.0 percent who attended high school and college, while for tenant operators the corresponding figures were 23.6 percent who quit school below the eighth grade and 27.2 percent who went to high school and college. This being true, it cannot be claimed that inadequate schooling

[12] Duncan and Sanders, op. cit., pp. 23-27.

is directly related to farm tenancy in the strictest sense. Educational advancement has been a product of cultural change, while farm tenancy must be explained as a phenomenon arising, for the most part, out of purely economic conditions.

Table 55. Percentage Distribution of Farm Operators of Different Tenure Status According to Grade of Schooling Received

Grade or year finished in school	Percent of operators finishing grade or year in school		
	All operators	Owners	Tenants
Total	100.0	100.0	100.0
0	.7	1.3	---
1	.2	.3	---
2	.9	.7	1.1
3	3.2	3.7	2.7
4	4.4	5.4	3.4
5	6.2	8.1	4.2
6	7.3	8.1	6.4
7	6.0	6.4	5.7
8	50.7	52.0	49.3
9	5.0	4.7	5.3
10	3.7	1.3	6.4
11	1.1	1.0	1.1
12	5.1	2.3	9.1
13	.9	.7	1.1
14	2.3	2.3	2.3
15	.5	.7	.4
16	1.1	.7	1.5
17	.7	.3	---

There are some observations that may be made regarding Table 55. First, all the farmers who reported that they had never gone to school, only four were owners. Second, there is a smaller proportion of tenants than of owners whose schooling ended with the fourth grade, and likewise, this is true for those who did not go beyond the eighth grade. Going on to high school and to college it will be seen that almost twice as great a proportion of tenant operators as of owners had been to high school, and a slightly larger proportion of them had been to college, that is, had finished thirteen or more years in school. This is quite unlike

the tendency found in the cotton growing counties of Oklahoma a few years ago, where the average amount of schooling received by owners was far greater than that of tenants.[18] Only one explanation of this seems to exist. It has been shown that, on the average, tenant farmers are much younger than owner operators. During recent decades the trend of the times has been in the direction of more schooling of children. Compulsory school laws requiring minimum attainments, lengthened school terms, better roads and bus transportation to school are improvements which have come in very recent years. Obviously the younger farmers, tenants included, have had better opportunities for going to school than those of the older generation. Otherwise, it would seem that education is a drawback to a farmer. The correct conclusion seems to be that cultural standards of farm people have been raised and that the opportunities for advancement are now beginning to be extended to the very bottom of the social pyramid.

Similarly, Table 56 shows the education of farmers according to the size of the investment, or the economic unit operated. But this table does not exhibit any marked tendencies in any direction. Somewhat larger proportions of the farmers with small investments had gone to high school and beyond than was true of those having larger investments. Those with medium sized investments have shown less tendency toward educational advancement beyond high school than either the farmers with large or those with small investments. Probably, the factor of age is partly responsible for this for the older farmers among whom most of those deficient in schooling were found tend to decrease their investments in the face of old age.

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[18] Ibid.

Table 56. Grade Finished in School by Farmers According to Size of Investment Operated

Investment group	Total number of operators	Percent of operators finishing grade in school				
		None	1 to 4	5 to 8	9 to 12	13 and over
Total	562	.7	18.7	70.3	15.3	5.0
Up to $2499	220	—	8.6	66.8	21.0	3.6
$2500-$4999	69	1.4	11.6	60.9	20.3	5.8
$5000-$7499	55	—	9.1	80.0	9.1	1.8
$7500-$9999	75	1.4	6.8	76.7	5.5	9.6
$10,000 and over	145	1.4	8.3	73.1	11.7	5.5

In a more detailed form than they appear in the table, a coefficient of simple correlation between the factors of education and size of economic unit operated was computed. This gave $r = +.0664 \pm .042$. This coefficient has no statistical significance using any criterion by which a coefficient may be evaluated. It does have social significance in that it shows that education and the size of an operating investment are not distributed correlatively throughout the farm population with any degree of consistency. The reason for this should be obvious. Education in school stops abruptly at stated intervals while there are no arbitrary limits to the size of an operating unit which a farmer may marshal into production except his own personal ability to command the productive factors he wishes to employ. Furthermore, the number of years of formal education in school is in no wise an absolute measure of either the amount of actual education or of farm managerial ability an individual may possess. Although the mathematical factors in this relationship may not have a close functional association, there is no proof that education in its broader sense may not be closely associated with the practices of a given group of farm operators.

9. Geographical Mobility of Farm Operators.

From the earliest days of settlement in this country moving from farm to farm and from locality to locality has been an important phase of the evolution of American agriculture. There are many reasons why farmers move, but there seems to be no reliable technique by which the real reasons for moving in individual cases can be determined fully. This part of the study does not propose to give an explanation of why farmers move, but only to associate the frequency of moving with certain socio-economic changes in family status.

In general, it may be said that reasons for moving fall within four broad classifications. First, farmers move in search of economic betterment, better land, larger farms, cheaper land, or in an effort to find better markets for their products. Second, there are large numbers of farmers who are forced to move because of economic reverses and misfortunes. Third, some farmers move in search of social or cultural advantages, such as schools, churches, community association, or to escape isolation. Fourth, there are still others who seem to have no good reason for moving except habit, or perhaps restlessness, or from any combination of reasons, such as health, dislike for climate, which may be associated with economic and social motives.[14]

Geographic mobility is to a large extent a function of tenure status, as has been shown rather effectively in the well known study by the United States Department of Agriculture in 1923.[15] That investigation showed that, other factors being the same, frequency of moving varied inversely

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[14]This thesis has been developed at length by J. T. Sanders in his study, The Economic and Social Aspects of Mobility of Oklahoma Farmers, Okla. Agric. Exper. Sta. Bul. 195, August, 1929, pp. 33-40.

[15]L. C. Gray, C. L. Holmes, Howard A. Turner, and J. T. Sanders, Farm Ownership and Tenancy, U. S. Dept. Agr. Yearbook. Washington: Government Printing Office, 1923, p. 594.

as the farmer's equity in his farm increased. The same tendency has held consistently in later years as has been found in the more recent censuses of agriculture.

In Table 57 an effort is made to show the relation of tenure to length of residence on farms occupied at the time the survey was conducted. It is true that in this table no attempt has been made to standardize the data for age composition of the various tenure groups of farmers, but simply to show the distribution of owners and tenants comparatively according to the length of residence on occupied farms, there can be no doubt that age is an important factor in the length of residence especially for owner farmers. However, the purpose of the table is to give only a crude picture of the distribution of different tenure groups as to length of occupancy of present farms.

Table 57. Percentage Distribution of Living Male Operators by Periods of Residence on Occupied Farms, by Tenure

Number of years of residence on occupied farm	Percent who have resided at present farm in five-year periods		
	All farmers (540)	Owners (281)	Tenants (259)
Total	100.0	100.0	100.0
Up to 4 years	26.7	11.0	43.6
5 to 9	19.6	13.2	26.6
10 to 14	18.9	20.3	17.4
15 to 19	9.8	11.7	7.7
20 to 24	6.7	9.6	3.5
25 to 29	4.3	7.5	.8
30 to 34	4.6	8.5	.4
35 to 39	4.6	8.9	—
40 to 44	4.3	8.2	—
45 to 49	.5	1.1	—

It is significant that almost four times as large a proportion of tenants as of owners had lived on the farms they occupied for four years or less. It may be observed that 26.7 percent of all farmers taken

together had lived on the farms they occupied for four years or less. Nearly two-thirds, 65.2 percent, of all farmers had lived on the farms they occupied at the time of the survey less than 15 years. In the owner group 44.5 percent, and in the tenant group 87.6 percent had occupied the farms they were then on less than 15 years. The heaviest concentration of tenant farmers, 43.6 percent, was in the period of less than four years occupancy, while in both the additional owner and the full owner groups it was in the period of 10 to 14 years occupancy. Furthermore only 4.7 percent of all tenants had occupied the same farms as long as 20 years, and only four-tenths of one percent of them as long as 30 years, while 43.8 percent of all owners had lived on the same farms 20 years or more, and 26.7 percent of all owners had resided on one farm 30 years or longer. Even allowing for age differences, ownership of farm land is an important factor in guaranteeing the territorial stability of the farm population.

The duration of occupancy on present farms may be conditioned by both objective and subjective factors, and it is virtually impossible to segregate the speculative from the concrete influences involved in most cases. It is doubtful if any one can determine just how important such bonds as sentiment, desire to be close to friends or relatives, dislike for having to make new acquaintances, and a host of other attachments are in affecting the moving habits of a farmer. All of these things may be so deeply involved in a quantitative study of territorial mobility of farmers as to conceal in a large way the significance of other factors which are more tangible. For these reasons, the statements to follow are very tentative.

In Table 58 percentage distributions of living male operators are

made according to the length of residence on farms occupied at the date of survey and the duration of the operator's employment in all kinds of work throughout his earning life. It may be noted by referring again to Table 57 that tenure status and length of residence on a given farm are closely correlated. What happens, in all probability, in Table 58 is that increases both in periods of residence and of employment are jointly selective as to farm tenure status. That is, this table segregates farm owners from tenants, which means that the acquisition of ownership of property in farm land as well as the length of the employment period tends to slow the frequency with which changes of occupancy have been made.[16]

Table 58. Percentage Distribution of 540 Living Male Operators in Ten Year Employment Periods of Number of Years of Occupancy on Present Farm

Years of occupancy on present farm	All farmers	Percent of employment group who have occupied present farm					
		Up to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 and over
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Up to 4	28.7	60.6	38.8	23.4	16.8	11.7	5.0
5 to 9	19.6	39.4	31.3	17.5	14.9	5.9	2.5
10 to 14	18.9	---	23.4	32.8	15.8	15.3	5.0
15 to 19	9.8	---	6.3	16.1	12.9	7.1	12.5
20 to 24	6.7	---	---	7.3	9.9	11.7	15.0
25 to 29	4.3	---	---	2.9	11.9	4.7	7.5
30 to 34	4.6	---	---	---	10.9	10.6	12.5
35 to 39	4.6	---	---	---	6.9	16.5	10.0
40 to 44	4.3	---	---	---	---	15.3	25.0
45 to 49	.5	---	---	---	---	1.2	5.0

Using the raw data for Table 58, a series of three correlations of the zero order has been made. Believing it possible that the ownership of land would tend to prolong residence in one place, it was decided to

[16] See also J. T. Sanders, op. cit., pp. 16-17.

separate the tenants from the owners, in order to see if such an assumption was justified, using the two variables, the number of years employed and the number of years of occupancy of present farms, the following results were secured:

Sample	Correlation Coefficient[17]
1. All farm operators	+.548 ± .031
2. All owner operators	+.627 ± .036
3. All tenant operators	+.299 ± .057

The coefficients obtained seem to justify the foregoing precaution that the distribution of farmers according to the period of their employment is to a large extent a selection on the basis of ownership. However, this does confirm the idea that farm tenancy is a function of youth and that the greater share of tenants will become owners if only they live beyond middle age.

From the foregoing facts, a basis is furnished for several questions which may be raised. Is there an actual tangible functional relationship between territorial mobility and the socio-economic status of farmers? Does frequency of movement facilitate or retard socio-economic climbing among farmers? If functional relationships do exist between these factors, are

[17]There is, no doubt, a spurious relationship in the correlation of these two variables. That is, there is a strong probability that age is correlated with age. But this cannot be true in all cases. It seems upon careful consideration that the age of the farmer would be the selective or distributive influence in each of these variables. While it is obvious that a farmer's age is the ultimate limit to both how long he has worked and how many times he may have moved, there is no apparent reason why, age being constant, moving may not have a variable relationship with length of employment. This point will be tested further by the use of an index of mobility designed to take out the age influence. However, the coefficients of correlation obtained for these two factors are not extremely high, even if spurious, when the data are associated in crude forms.

they direct or inverse, and are they uniform among all types of farmers in a given typical farming area? Finally, if there is a mobility differential between various classes of farmers, in which socio-economic levels is mobility frequent and in which levels is it infrequent?

The preceding data have suggested that territorial mobility and the socio-economic status of farmers are functionally related. It seems justifiable on the basis of these data to assume as a working hypothesis that frequent moving is associated with comparatively low economic status and vice versa. The problem resolves itself, therefore, into a task of ascertaining a measure of the significance of whatever relationship there may be. Before this can be done in a manner at all satisfactory the frequency of moving must be standardized in relation to the age, or rather the earning life of the individual farmer. One farmer may have moved four times in six years of earning life while another may have moved only four times during an earning period of sixty years. The number of moves would be the same but it does not require proof that the mobility patterns of the two farmers would be vastly different. In order to standardize the data so that the effects of age can be controlled, it is necessary to compute an index of mobility which may be expressed as a ratio between the number of moves and the earning period or the number of years a farmer has been employed.

For the sake of convenience, this ratio is written, $I.M. = \frac{m}{t} \times 100$. In this equation, I M is the index of mobility which is being sought, m is the number of moves made, t is the number of years employed life during which the moves were made, and the quantity 100 is a constant.[18] The

[18] B. O. Williams uses a similar index in his study, Occupational Mobility Among Farmers. Clemson: South Carolina Agric. Exper. Sta. Bul. 296, June, 1934, p. 17. J. T. Sanders in his study (op. cit.) of mobility approaches the problem by the use of an Index of Stability, which he found

Index of Mobility derived by the above given equation may not be a perfect tool, but it is preferable to using unstandardized data.

As has been shown already, it is practically impossible to make any type of distribution of the data in this study which is not influenced by tenure. For this reason, it is necessary to separate tenants and owners on the basis of territorial mobility. In Table 59 it can be seen at a glance that the mobility patterns of different tenure groups are strikingly dissimilar.[19]

Table 59. Percentage Distribution of Farmers of Different Tenure Status According to Index of Mobility

Index of mobility classes	Percent of farmers		
	All farmers	Owner farmers	Tenant farmers
Total	100.0	100.0	100.0
0 - 4	27.9	34.9	20.1
5 - 9	22.7	28.2	16.7
10 - 14	19.9	20.4	19.3
15 - 19	12.5	9.2	16.3
20 - 24	6.4	1.7	11.7
25 - 29	4.5	3.7	5.3
30 - 34	2.0	.3	3.9
35 - 39	.5	.3	.8
40 - 44	1.8	1.0	2.7
45 - 49	.5	.3	.8
50 - 54	.2	—	.4
55 - 59	.2	—	.4
60 - 64	.2	—	.4
65 - 69	.2	—	.4
70 - 74	—	—	—
75 and over	.5	—	1.2

by grouping his subjects into class intervals of earning life and computing the average number of moves for each class. This average was assumed as a base and the stability index of each farmer was computed as a ratio of the actual number of moves he had made to the average for his class. It is believed by the writer that the Index of Mobility has an advantage over the Sanders Index of Stability because it interprets each individual in terms of his own experience rather than in terms of a group average. However, the approach made by Sanders achieves results consistent with the general hypothesis of an inverse relationship between mobility and socio-economic status.

[19]Not only is this true for farmers of different tenure status in the same area, but it holds also as between farmers of the same tenure status but in different areas. Cf. B. O. Williams, op. cit., p. 19.

The percentage distribution of owner and tenant farmers on the basis of mobility indexes constitutes a rough criterion of the index itself. The concentration of both owners and tenants into the lower index class is heavy. It is apparent at once that the index of mobility used, does not tend to redistribute the cases in a manner greatly different from what would be expected on the basis of Tables 57 and 58, even with the age factor standardized.

A second criterion of the index of mobility to be applied is that of the coefficient of correlation between the index of mobility itself and the total number of moves a farmer has made. For 295 owners for whom usable data were secured, a coefficient of $+.613 \pm .036$ was found, and for 264 tenants one of $+.631 \pm .037$ was obtained. These results are interpreted to mean that there is a fair degree of consistency in the index of mobility which has been computed. If the coefficients had been unity, the mobility index would have been unnecessary, but if they had been very low, it would have been worthless.[20] The index merely shows that the standardized index of mobility is compatible, within limits at least, with the actual moving habits of the subjects of this study, and it shows further that simple numbers of moves made are not satisfactory quantitative variables for purposes of this study because of the highly erratic time element which may be involved in the same number of moves by different farmers.

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[20] D. C. Williams, op. cit., p. 18, has employed this same technique and defends it with ample logic. However, he found coefficients that are appreciably higher than those obtained here, due probably to a radical difference in the general socio-economic patterns in the two areas involved. He was studying cotton and tobacco farmers, while this is a study of wheat farmers. For the meaning of spurious correlation, see Mordecai Ezekiel, Methods of Correlation Analysis. New York: John Wiley and Sons, 1930, pp. 319, 347, or any standard text on statistical methods.

The mean index of mobility for all owner farmers was found to be 9.2 ± 7.8 and that for tenants was 16.1 ± 13.0. The standard errors of these means are large, because the distribution of the data is sharply skewed toward the lower indexes. In the distribution of owners on the basis of the index of mobility, 80.0 percent of the cases fall within the range of two standard errors of the mean, and for tenants 69.8 percent of the cases lie within two standard errors of the mean. The greatest deviations from the means in both cases are above rather than below the means. However, the frequencies of these wide variations are small. The total range in the mobility index for owners is from 0 to 49, while that of tenants is from 0 to 150.

Another slant on the representativeness of the means of the samples used may be had by comparing them with the medians of each series respectively. For owners the mean index of mobility was 9.2 compared with a median index of 13.3, while the mean index for tenants was 16.1 compared with a median of 13.8. In a symmetrical, commonly called a normal, distribution, the mean and the median would coincide. However, the coefficients of correlation between the indexes of mobility and the actual number of moves made are of enough significance to justify the use of the index as a dependent factor in the analyses which follow immediately.

A series of simple correlations of the zero order indicates that mobility is inversely related to various aspects of the socio-economic status of farmers. However, it is for the most part a minor factor. Fifteen sets of correlations have been run, and only two gave results that may be said to show an unquestionable degree of statistical significance between the factor of mobility and the phenomenon studied in relation to it. These were the size of the investment operated and the gross

cash income received. For convenience these results are set forth in Table 60.

Table 60. Correlations of Zero Order, Between Index of Mobility and Other Factors in the Socio-Economic Status of Farm Operators

Factor correlated with Index of Mobility	Tenure group	Coefficient of correlation (r)	Standard error of coefficient
Grade finished in school	All farmers	-.272	± .039
	Owners	-.200	± .056
	Tenants	-.151	± .060
Net wealth of operator	All farmers	-.0154	± .042
	Owners	-.085	± .058
	Tenants	-.093	± .061
Size of operated investment	All farmers	-.261	± .039
	Owners	-.888	± .018
	Tenants	-.132	± .061
Size of farm operated	All farmers	-.165	± .041
	Owners	-.122	± .057
	Tenants	-.155	± .060
Gross cash income received	All farmers	-.165	± .041
	Owners	-.494	± .044
	Tenants	-.154	± .060

The results presented here are highly important, not because of what is usually considered as significant in correlation coefficients as much as because they are a challenge to conventional thought and popular prejudices. It is almost unnecessary to present proofs of this point. In fact practically all the investigators cited in this portion of the study are of the opinion that high mobility is to be associated with low socio-economic status and vice versa. Furthermore, the results given in this

table tend to confirm that belief. However, it will be noted here that only in the cases of the size of the operated investment and the cash income received, and with the possible exception of the grade of schooling received, were the coefficients great enough to be attributable to anything but chance association. Even at that, it is only for owner-farmers that there is a tangible significance to the coefficients in any case. It may be conceded that since all the coefficients, however small or large, were negative the chances are slightly better than even that high mobility reflects unfavorably upon socio-economic status. The point of this is that sociological diagnoses can be made much more accurately when it is learned that many hypotheses now worn threadbare are based more upon casual than upon causal associations. The difficulty arises because sociological investigators frequently have been blinded by the "abnormal," the "atypical," and the "pathological." It is admitted that mendicants, beggars, and improvident and indigent people of all kinds are usually unsettled as to habitat, and shiftless in habits. However, on the opposite extremes of the population, territorial mobility will likely be found in proportions which exceed those in the intermediate population levels. Certainly there are evidences in support of this contention when it is applied to rural-urban migration which constitutes a sizeable percentage of the moving done by the farmers in this study.[21] There seems to be certain compensating factors operative in nearly all social processes. Geographic mobility, for example, appears to increase as people descend to lower economic levels, to reach a low ebb among those who are in moderate circumstances, and to increase again as the economic level of the popu-

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[21] See Carle C. Zimmerman, O. D. Duncan and Fred C. Frey, "The Migration to Towns and Cities, III," Amer. Jour. Sociology, XXXII, 1927, pp. 237-241.

lation approaches prosperity.

The preceding statement is somewhat borne out, it may be observed by referring again to Table 60, by the results obtained in this study. In all instances, there are tangible differences between the coefficients found for tenants and owners relative to the same phenomena. At least this is true if the differences are measured with respect to the coefficients which were found. The most outstanding example of this is the case of the size of the investment in farm operations. There is no doubt that high geographic mobility is associated with declining earning capital among owner farmers. However, one of the primary reasons why a tenant moves is to get better land, to find a larger farm, and to acquire a lease to a more economically sized farm business. He is forced to do this because his problem of making a living increases with the size of his family. He cannot invest his surplus in the land he operates, but must find a larger farm where this surplus can be absorbed in labor and productive machinery. The owner must stay on his land, spend his surplus rebuilding his soil and improving his physical plant. Because of axiomatic facts of this kind, there are good reasons why a given mobility pattern does not fit the behavior of two or more classes of farmers in similar proportions.

For the most part the data of this study would indicate that territorial mobility is largely an incidental factor in relation to the economic status of the farmers in the area studied. Even though the correlations are all negative, there are inadequate grounds for contending that moving is in itself the prime factor determining the economic status of the group of farmers studied.

A casual glance at Table 61 reveals at once that there is no significant relationship between the index of mobility which characterizes the

farmers in this sample and their educational attainments. As has been seen already, tenant farmers are more mobile than owners, while they had on an average one year more of schooling than owners. Not only that, but also in both tenure groups, the average grade of education held by farmers of different mobility indexes obeys no law whatever. The fluctuations of these averages are both wide and inconsistent, which is taken to mean that beyond reasonable doubt, territorial mobility has been a negligible factor in selecting farmers according to the grade of education they have received.

Table 61. Average Grade Finished in School According to Mobility Indexes of Operators, by Tenure

Mobility index groups	Average grade finished in school		
	All farmers	Owners	Tenants
All index groups	7.8	7.0	8.0
0 - 4	7.7	6.7	9.2
5 - 9	8.2	7.9	7.9
10 - 14	7.5	7.2	7.8
15 - 19	7.4	6.5	7.3
20 - 24	7.9	8.0	7.8
25 - 29	8.2	7.7	8.6
30 - 34	6.7	4.0	7.0
35 - 39	8.0	10.0	7.0
40 - 44	7.1	7.6	6.9
45 and over*	8.6	9.0	8.6

*Condensed because the distributions in higher index groups are so badly scattered that averages would be based on insufficient number to have any significance.

Table 62 shows the number of moves made, the number between farms, and the number between farms and towns per 100 living male operators who were in different 10-year periods of earning life. The percentage distribution of operators according to 10-year periods of earning life is shown for both tenants and owners in Table 63 which is given as an auxiliary tabulation to assist in the interpretation of Table 62.

Table 62. Number of Moves Made Per 100 Living Male Operators of Farms According to 10-Year Periods of Earning Life of Operators, by Tenure

Periods of earning life (years)	Number of moves per 100 farm operators in each period of earning life								
	All moves			Moves between farms			Moves between farms and towns		
	All farmers	Owners	Tenants	All farmers	Owners	Tenants	All farmers	Owners	Tenants
Total	292.4	272.6	313.9	240.6	227.8	254.4	51.9	44.8	59.5
Up to 9	104.5	162.5	96.6	83.3	112.5	79.3	21.2	50.0	17.2
10 to 19	216.2	208.8	219.5	163.1	161.8	163.3	51.4	44.1	54.5
20 to 29	321.9	281.2	363.2	271.5	264.1	291.2	51.1	29.0	73.5
30 to 39	354.5	242.9	606.5	298.0	204.8	509.7	51.4	38.6	96.8
40 to 49	383.5	309.7	582.6	324.7	264.5	487.0	60.0	46.8	95.7
50 and over	362.5	331.6	950.0	285.0	250.0	950.0	77.5	81.6	---

Table 63. Percentage Distribution of 540 Living Male Operators According to 10-Year Periods of Earning Life of Operators, by Tenure

Period of earning life	Percent of operators in specified period of earning life		
	All farmers (540)	Owners (281)	Tenants (259)
Total	100.0	100.0	100.0
Up to 9 years	12.2	2.8	22.4
10 to 19 "	20.6	12.1	29.7
20 to 29 "	25.4	24.6	26.2
30 to 39 "	18.7	24.9	12.0
40 to 49 "	15.7	22.1	8.9
50 years and over	7.4	13.5	.8

As may be seen readily from Table 62 approximately four-fifths of all moves made by all operators were between farms only, the actual division of the raw data being 82.3 percent for all operators, 90.7 percent for owners, and 81.1 percent for tenants. From this distribution it is easy to see two things: First the preponderance of the weight of tenant moving over that of owners, and second, the closer attachment of owners than of

tenants to agriculture. Tenants have a somewhat greater propensity than owners for indecision as to occupational attachments. This is significant because it indicates that farm tenancy serves as a kind of experimental laboratory for the tenant. It may be observed from Table 63 that exactly eight times as large a proportion of tenants as of owners were in the first 10 years of their earning life, and about two and one-half times as great a proportion of tenants as of owners were in the second decade of their earning lives. It is not the young tenants who move more than owners of the same age, but rather as age increases the excessive territorial mobility of tenants over owners both between farms and between farms and towns is augmented. This is obvious because the longer a farmer remains a tenant the greater is his exposure to the necessity of moving, while with owners the case is practically the reverse. The younger owners were actually more frequent movers than tenants of corresponding age, but this applies only to the first decade of the earning life. After that period was passed, the tenants became the more frequent movers in every instance for which the samples were large enough to justify any comparison whatever.

In Table 64 a gross idea is given of the comparative frequency of moving. These are only rough comparisons from the data not standardized for the ages of operators which are made for the purpose of showing a cross-section of the moving behavior en masse of the farmers in the sample as it appeared at the time of the survey.

The comparisons in Table 64 indicate that on the whole variations in the frequency of moving are confined mostly to the extremes. Relatively more of the tenants than of the owners had never moved. But a larger proportion of owners than of tenants had moved from one to four times. For those who had moved ten times or more, tenants predominate heavily over

owners both relatively and absolutely. In Table 59 the data of Table 64 appear in standardized form, and taken together the two sets of figures help to explain the low correlation coefficients given in Table 60. Also they throw further light on the data given in Table 62. They show further that there are compensating factors in mobility which may tend to nullify its supposed untoward effects in as much as a moderate amount of moving seems to be a necessary means toward the advancement of farmers from the status of tenants to that of owners. This appears to justify the contention that the problem of geographic mobility of farmers is chiefly one of dealing with extremes in both directions rather than of simply making a blanket statement that moving by and large is subversive of the socio-economic interest of the farmer.

Table 64. Percentage Distribution of Farm Operators of Different Tenure Status According to the Number of Times the Operator Has Moved

Number of times farmer has moved	Percent of farmers moving specified number of times		
	All farmers (540)	Owners (281)	Tenants (259)
Total	100.0	100.0	100.0
0	18.6	14.2	23.4
1	27.5	29.5	25.5
2	19.0	22.0	15.5
3	14.1	16.9	11.0
4	8.7	8.5	9.1
5	3.7	3.4	4.2
6	3.2	2.4	4.2
7	.9	.7	1.1
8	1.3	.7	1.9
9	.4	.3	.4
10 or over	2.6	1.4	3.9

In Table 65 the average number of moves for farmers of different tenure is shown according to the size of investments operated. Again, except in so far as tenure status and the size of investments operated may be selective with reference to the age of farmers, no effort has been

made to correct for the age variant in these data.

Table 65. Number of Moves Made Per 100 Living Male Operators Having Investments of Varying Size According to Types of Moves Made and Tenure Status of Operators

Tenure group and types of moves	Number of moves per 100 farmers in investment group					
	All groups	Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
All moves						
All farmers	292.4	331.2	260.9	317.6	298.5	239.4
Owners	272.6	340.0	340.4	304.9	301.5	235.0
Tenants	313.9	330.7	222.0	370.0	100.0*	550.0*
Moves between farms						
All farmers	240.6	273.5	189.1	258.8	258.8	198.6
Owners	277.8	280.0	247.8	261.0	261.2	195.0
Tenants	254.4	273.2	156.1	250.0	100.0*	450.0*
Moves between farms and towns						
All farmers	51.9	57.7	71.9	49.0	39.7	40.8
Owners	44.8	60.0	82.6	43.9	40.3	40.0
Tenants	59.5	57.6	65.9	70.0	---*	100.0*

*Number of cases so small that figure given is only nominal.

The figures shown in Table 65 do not conform in a pronounced way to any definite rule. For owners, the number of moves per 100 operators declines progressively from 340.0 to 235.0 as the size of the investment operated increases from less than $2500 to $10,000 and over, the only exception being of negligible importance. Since the coefficient of correlation found for the Index of Mobility and the size of investment was $-.888 \pm .018$ in the case of owners as shown in Table 60, it is believed that the tendency shown here is significant as it relates to all moves taken together. When the moves are broken up as between farms and between farms and towns, the relationship persists with more or less irregularity. For tenants, most of whom fall in the group with the smaller investments, 79.2 percent having gravitated into the smaller investment group, the data

in this table do not afford adequate bases for comparisons throughout the series of investment groups. However, the number of moves made per 100 tenant operators in the $2499 and lower investment group was 330 for all tenants as compared with 264.1 percent for those in all other groups. This at least carries a suggestion that for tenants there is a slight inverse relation between the size of the investment and the number of moves made. The corresponding figures for moves between farms were 278.2 and 186.8 and for moves between farms and towns the number of moves were 59.5 as compared with 69.8. In only the moves between farms and towns was it found that moving increased directly with the size of investments operated by tenant farmers. The fact that the coefficient of correlation between the Index of Mobility and the size of the investment for tenants was only $-.132 \pm .061$ is an indication that any generalization regarding the incidence of relationship between these two factors for tenant farmers would be largely speculative. In view of the low degree of correlation between the two variables, and of the results of a more detailed study of the data, it seems that the most that may be said is that there is a barely perceptible negative association between them in the case of tenant farmers.

The above statement may seem to be in contradiction with what was said previously, that the tenant may be forced to move in order to be able to acquire control of a larger farm business. It is to be noted that 95 percent of the tenants in this sample operated investments valued at less than $5000, and that while a tenant now and then has an investment of more than $10,000 in his farm business, the number is so small as to be overcome entirely by the 79.2 percent whose investments are below $2500. Even though the tenant whose operating investment is large may have moved more than an average number of times for all tenants, his

presence is more than offset by a score or more whose investments are almost nil but who move often.

The obverse side of the point under discussion in the above paragraph is brought out clearly by studying the duration of occupancy of farms since the last move was made. This gives an idea of the relation of stability to the size of the investment operated.[22] Table 66 is arranged so as to show the percentage distribution of farmers with various sizes of investments in periods of residence on the farms they occupied at the moment of the survey.

Table 66. Percentage Distribution of 540 Farmers Operating Investments of Different Sizes According to Length of Residence on Present Occupied Farm

Years of residence at present farm	Percent of farmers in investment group					
	All farmers	Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
Total	100.0	100.0	100.0	100.0	100.0	100.0
0 - 4	26.7	45.6	20.3	13.7	16.2	10.6
5 - 9	19.6	25.6	23.4	9.8	19.1	12.7
10 - 14	18.9	16.3	28.1	27.4	17.6	16.2
15 - 19	9.8	6.5	15.6	13.7	10.3	10.6
20 - 24	6.7	3.7	4.7	5.9	13.2	9.2
25 - 29	4.3	.9	1.6	9.8	1.5	9.7
30 - 34	4.6	1.4	3.1	7.9	5.9	8.5
35 - 39	4.6	—	1.6	5.9	5.9	11.9
40 - 44	4.3	—	1.6	5.9	10.3	8.5
45 - 49	.5	—	—	—	—	2.1

In Table 66, the chief significance of the data is found in the first

[22] J. T. Sanders (op. cit.) contends that stability in many respects affords a more logical approach to the problem at hand than the Index of Mobility. There is no question that the Index of Mobility has its disadvantages. A man may have been a very frequent mover in early life, and may not have moved at all in later life. He would have a high Index of Mobility, but in reality would not necessarily be considered a great mover after he was once established.

three age groups. It will be observed that generally the percentage of farmers in each investment group declines with age. But this is due largely to two factors, the natural selection of age itself and the preponderance of young farmers in the group having investments smaller than $2500. In all investment groups above $2500, allowing for scattered exceptions, the tendency is for the percentage of farmers to increase, slowly at first, then more rapidly with the advancement of age.

Again, the method of simple correlation was employed as a means of obtaining a measure of this increase. The data were divided on the basis of tenure and the correlation coefficients were computed for the factors of length of residence on present farms and size of investment. The results obtained were as follows:

All farmers - $r = +.594 \pm .028$

All owners - $r = +.416 \pm .049$

Tenants - $r = +.648 \pm .036$

All of these coefficients indicate a significant positive relation between length of residence on occupied farms and the size of investments. It will be remembered that on the basis of mobility indexes and the size of investments the coefficients were negative, (see Table 60). Furthermore, it may be observed by comparing these two sets of results that the higher the coefficient between residence and the size of investment the smaller was the relation between mobility and the size of investments and vice versa. Hence, the obvious conclusion, territorial mobility and stability are but counterparts of the same phenomenon, and in either form these factors are significantly associated with the size of the operated investment. Also, the smaller the degree of association between mobility and the size of the investment, the greater is the probability of a signi-

ficant association of stability and the size of the investment.

In studying the stability factor in relation to net wealth of farmers, it seems that frequency of moving does not affect the accumulation of wealth as greatly as it does the size of the investment in farm operations. Furthermore, there is, apparently, less consistency in the relationships which do exist between net wealth accumulation and the period of residence on the last farm occupied than is obtained between the period of residence and the size of investments operated. A percentage distribution of farmers of different net wealth classes according to the length of time they have resided on their present farms is shown in Table 67.

Table 67. Percentage Distribution of 534 Farmers of Different Net Wealth Status According to Length of Residence on Present Occupied Farm

Years of residence on present farm	All net wealth groups*	Percent of net wealth group					
		-$2500 to 0	$0 to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 - 4 years	26.4	30.4	42.0	13.4	19.2	13.0	9.1
5 - 9	19.9	34.9	25.5	19.1	11.5	15.2	10.9
10 - 14	18.9	26.1	19.9	23.8	13.5	15.2	16.4
15 - 19	9.7	4.3	5.9	22.8	13.5	10.9	10.0
20 - 24	6.7	4.3	4.2	4.5	7.7	15.2	10.0
25 - 29	4.3	—	.8	5.9	5.8	4.4	10.9
30 - 34	4.7	—	1.3	7.5	7.7	8.7	8.2
35 - 39	4.7	—	.8	1.5	9.6	8.7	11.8
40 - 44	4.1	—	—	1.5	11.5	8.7	10.0
45 - 49	.6	—	—	—	—	—	2.7

*Percentages in this column differ slightly from those corresponding in Table 66 because there were six farmers in the group whose net wealth status was questionable.

There is a disturbing element in the data shown in Table 67 in that to a large extent the factor of age of the farmers is operative both in the period of residence and in the amount of net wealth accumulated. It was

shown in Table 47 that the average age of farmers is higher in the higher group than in the lower wealth brackets, and it is obvious that the average period of residence will increase somewhat with advancing age in the case of the majority of farmers. Since both of these factors are somewhat selective as to age, but not entirely and not necessarily in the same proportions, it would appear that there would be a residue of the population group whose net wealth would be in some measure independent of age. An inspection of Table 67 indicates that there is a tangible relationship between the period of residence on the last farm occupied and the net wealth accumulation. But there are undoubtedly many cases of farmers whose prolonged occupancy of a given farm has been a contributing factor in their poverty. Certainly this would be true of a farm of uneconomical size, poor unproductive land, or in case the farmer was a poor manager on the type of farm he occupied.

Subjecting the foregoing data to a detailed study, the following coefficients of correlation were obtained between net wealth and the length of stay on present occupied farms:

All farmers - $r = + .421 \pm .036$
All owners - $r = + .173 \pm .058$
Tenants - $r = + .071 \pm .062$

In case of the sample as a whole, the coefficient of correlation is large enough to be considered significant, but when broken down into its components, the coefficients obtained were not significant. The two groups, owners and tenants, taken separately tend either to be concentrated or dispersed in opposite directions in the distributions. Taken together their distribution becomes somewhat more symmetrical. This suggests that even the apparently significant correlation coefficient obtained for the entire sample may be largely incidental, and it is questionable whether or not

ordinarily recognized statistical procedure is the type of tool needed for gaining access to the kernel of this problem.

As has been contended before, territorial mobility on the one hand may be a means toward acquiring more productive land, more economically sized units, more convenient access to markets and roads and better institutional and cultural advantages. Likewise, it may be a method of following the line of least resistance in the struggle for existence. With improvident and inferior grades of farmers, moving is frequently resorted to as an escape from contracted obligations and to find new sources of credit when merchants and landlords, and banks in the neighborhood of established residence will no longer make advances in either money or furnishings. Moving, or mobility, as such may be a direct factor in socio-economic advancement depending upon the application made of it in each individual case. Statistically, it is well nigh impossible to demonstrate the actual motives and influences underlying changes of residence. At best it can be said that frequent moving is more often associated with poverty than with wealth in the farm population. However, poverty is more than likely to be associated with almost any other factor than wealth, because a preponderance of farmers in this study would be regarded as being poor by almost any standard of material wealth that could be devised.

CHAPTER VII

THE UNION OF OPERATORS AND WIVES

1. General Factors Related to Marital Selection.

In this part of the investigation it is proposed to study the available data relating to the formation of the family which is interpreted to mean specifically the selection of mates by farm operators and their wives. It is believed that in the farm population, age, education and occupational background are significant facts associated with assortative mating. There is probably no one human relationship which is more amenable to adequate demonstration than that of the assortative, or selective influence of age in marriage, especially in reference to the younger adult population. Migration is a powerful influence which tends to upset the uniformity of ages at which people marry. Another disturbing element is a relative scarcity of marriageable females in a population. Both of these factors tend to raise the average age at marriage of males relative to that of females, despite the fact that the average age at marriage may rise for females in a migratory population. When marriageable females are scarce relatively in a population they may tend to marry earlier on an average than in communities where they are more plentiful.

The "principles" stated in the above paragraph appear generally to be true and widespread in most of the secondary Anglo-Saxon cultures, whether in South Africa, Australia, the urban or the rural areas of the United States. To be sure there are variations and exceptions both between different countries and different population groups within the same country, but the irregularities which occur can be explained usually if a

knowledge of the history of the population can be had. In other words, anomalous deviations for the mass of the population are not greatly significant. A further observation is that variations in the size of the sample do not seem to constitute major obstructions to establishing a fairly stable marriage age curve for a given population. However, this curve is not regular and symmetrical. It is skewed very greatly toward the lower adult ages for both males and females.[1] These consistencies cannot be claimed with such persuasiveness for educational and occupational selection in marriage as for age. Data upon which to base such claims are more difficult to secure and are usually much more speculative and imperfect than is true of age. The primary purpose of this section of the study, then, is to demonstrate the degree to which selection takes place in marriage with respect to age, educational and occupational backgrounds of the marrying population.

2. The Female Head of the Family.

In studying the age distribution of living married female family heads it is to be observed at once that there is a pronounced difference between the wives of owners and tenants in respect to age. This is to be expected, for it has been shown already that tenant operators are much younger on the whole than owner operators, and with about the usual spread between the ages of men and women at marriage it could not be otherwise. The age distribution of the living married female heads of families is shown in Table 68.

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[1] These statements are based on observations from nine samples ranging in size from 242 to 43,250 cases, and totaling 102,035 marriages in the different parts of the world mentioned here. These data have not been published in an analytical study up to now, but are in the possession of the writer.

Table 68. Age Distribution of Living Married Female Heads of Families for Tenure Groups

Age groups of female heads	All women		Owner Women		Tenant Women	
	Number	Percent	Number	Percent	Number	Percent
Total	509	100.0	269	100.0	240	100.0
Up to 19 years	2	.4	--	--	2	.8
20 to 29	84	16.5	14	5.2	70	29.2
30 to 39	132	25.9	46	17.1	86	35.8
40 to 49	124	24.4	78	29.0	46	19.2
50 to 59	102	20.0	73	27.1	29	12.1
60 to 69	51	10.0	46	17.1	5	2.1
70 and over	14	2.8	12	4.5	2	.8

The modal frequency age group for female heads of owner families is from 40 to 49 years while in tenant families it is from 30 to 39 years. This may be explained by two facts. First, the wives of tenant farmers were slightly younger at marriage than the wives of owners. Second, tenant farmers tend to become owners in sizeable proportions, if they remain on the farm, after they have been at work for themselves long enough to enable them to make the initial payment on a farm of their own. For this reason, there is a drain on the tenant wives in the older age groups, which has the dual effect of decreasing the proportions of older tenant women and increasing the proportions of older women among owners' wives.

The average age of the above described women was 43.2 years. As may be seen from Table 69, there is some evidence that the oldest women were wives of owner operators having the smallest investments. In the owner class, there is no pronounced tendency for the age of operators to vary either inversely or directly with the size of the investment operated. It is probable that that is the reason why the oldest women fall into the smaller groups. Again this suggests the cyclical nature of family life. Young tenants start out at the bottom of the agricultural ladder.

The process of accumulation of wealth increases with age for a time during which they may become owners or try extensive farming however they may choose, until in old age they decline economically as well as physically. The usefulness of this table, however, is that it shows, when compared with previous data on the farm operator, that it is only the exceptional case when the life history of the wife differs greatly from that of the husband, allowing for the original differences between their ages. Also it is useful in demonstrating the difference in ages of owner and tenant wives with variations in the size of the investment. The mean ages of tenant wives increase directly with the size of the investment, while those of owner wives do not. In all investment groups owner wives were older than the wives of tenants, but there was some indication that as the investment increased the age differences between owner and tenant women decreased, although not uniformly.

Table 69. Average Ages of Living Married Female Heads of Families in Different Tenure Groups According to Size of Investment Operated

Investment groups	Average age of female family heads		
	All wives (523)	Owners (281)	Tenants (242)
All groups	43.2	49.0	36.7
Up to $2499	37.0	50.1	36.4
$2500 to $4999	41.8	48.8	37.2
$5000 to $7499	47.4	49.3	37.1
$7500 to $9999	47.0	46.4	39.0
$10,000 and over	49.8	49.8	47.0

Owner wives being appreciably older as a group than the wives of tenants, they did not have educational advantages equal to those of the younger women. Also, in the owner group there are many women whose parental families were tenants, and in the tenant group there are many

cases whose parental families were owners. This would mean that in all probability, the younger women not only had superior educational opportunities because of improvements in schools but also there may have been a considerable number whose economic status in youth was superior to that of many of the wives of owners. The question may be asked, would not the reverse of this proposition be equally probable? This does not seem plausible because there is a continual struggle in an effort to rise from tenancy to ownership, while as it has been shown only 2.0 percent of the tenants in this study have been owners who have fallen back. Not only that but also a majority of young farmers begin as tenants regardless of whether their fathers were owners or tenants and seek to advance to ownership as their experience makes it possible for them to acquire rights of ownership in the farms they operate. In view of this, it does not seem plausible that the reverse of the proposition stated is of sufficient significance to nullify the tendency which has been observed.

In Table 70 the percentage distribution of operators' wives according to educational advancement is given for all women and for owners and tenants separately. It may be observed that the percentage of owner wives whose schooling stopped with the completion of the grade school is consistently lower than for the wives of tenants, while for those going to high school and beyond the reverse is true. The average grade finished by all women in this sample was 8.7, for owners 8.4, and for tenants 9.1. Only four-tenths of one percent of the women included in Table 70 had received no schooling whatever, while 3.2 percent had finished college. The principal stopping point in education for this sample of farm women was the eighth grade. Of all women, 51.0 percent finished the eighth grade and went no further in school, and the corresponding figures were 56.0 percent for owner wives and 45.4 percent for tenant wives. On the

other hand, 4.1 percent of the tenant wives finished college as compared with 2.1 percent of the wives of owners.

Table 70. Percentage Distribution of Living Female Heads of Families Who Have Been Married According to the Last Grade or Year Finished in School, by Tenure

Grade or year finished in school	Percent of wives finishing grade or year in school		
	All wives (532)*	Owners (287)	Tenants (245)
All grades	100.0	100.0	100.0
0	.4	.0	.8
1	.0	.0	.0
2	.4	.3	.4
3	.6	.7	.4
4	1.7	2.8	.4
5	3.9	4.1	3.6
6	8.0	8.6	7.3
7	3.5	4.1	2.8
8	51.0	56.0	45.4
9	6.0	3.8	8.5
10	5.2	4.8	5.7
11	2.4	.7	4.5
12	7.4	7.2	7.7
13	2.2	2.1	2.4
14	3.0	2.4	3.6
15	1.3	.3	2.4
16	3.0	2.1	4.1

*This figure includes widows and spinsters who were heads of households, while Table 68 contains only living wives of operators.

3. Age Selection in Marriages of Operators and Their Wives.

The age of a population at marriage is a matter of vast importance in understanding the fundamental processes of family organization. The age factor in marriage in a large way reflects the social and cultural backgrounds of the population, the degree of dependence of a population upon the family institution, and the standard of living which a group desires to maintain.[2] This means that as a rule, there is a direct

[2]Otis Durant Duncan, Trends in the Modern Family in America (unpublished paper) on file at Oklahoma Agricultural and Mechanical College Library, 1935, pp. 5-6.

relationship between the age of a population at marriage and their socio-economic status. Except in cases in which wealth may be acquired fortuitously, persons who marry early necessarily are poorer at the time of marriage than those who work and save for a few years longer before entering marriage. Frequently, although not necessarily, the results of an early marriage are reflected in the economic life of the family as long as it exists. Table 71 gives the percentage distribution of the population group being studied according to age at marriage for both owner and tenant families and for each sex separately.

Table 71. Percentage Distribution of Operators and Wives According to Age at Marriage, by Tenure*

Age at marriage	281 Owners		242 Tenants	
	Operators	Wives	Operators	Wives
All ages	100.0	100.0	100.0	100.0
Up to 14 years	---	---	---	.4
15 - 19	4.3	34.2	10.4	45.5
20 - 24	38.5	45.9	52.5	44.2
25 - 29	34.5	13.2	25.2	7.9
30 - 34	11.4	3.6	6.2	---
35 - 39	4.6	2.1	4.1	.8
40 - 44	4.3	.7	.4	.4
45 - 49	.7	---	1.2	.4
50 - 54	1.4	.3	---	.4
55 - 59	.3	---	---	---

*This table includes 12 wives who were dead at the time of the survey, which accounts for differences in totals between it and Table 68.

It is to be expected that the curves of ages at marriage have different characteristics for the two sexes because of biological factors in maturation. However, there is no known natural reason why persons of the same sex should marry at different age norms in various social groups.

Yet, it is a fact that this happens.[3] The explanation of age variation in marriage as between social groups must be sought in terms of social, economic, occupational, and other external or environmental characteristics surrounding the population.

From Table 71 it may be seen readily that the five-year period from 20 to 24 years, inclusive, is the most popular age for marriage in this population group except for tenant wives who showed a slight preference for the age period from 15 to 19 years inclusive. Also it may be seen that tenants of both sexes are far more inclined to marry early than owners. This suggests strongly one of two explanations. Either immature marriage is an obstacle to advancement on the agricultural ladder, in which case those who married earliest remained tenants longer, or those who postponed marriage found it easier to become owners afterwards. Furthermore, these are not mutually exclusive conditions. Many of them become owners even before marriage.

There is one factor which must be recognized. While the usual practice in taking the schedule was to ask for the age of the persons at the time of the first marriage, it was sometimes found that either the husband or the wife had had a prior marriage while the other had not. In this case, it was necessary to compromise either by throwing the schedule out, which was not always justifiable, or by using it in violation of the procedure. Since owners are older on the average than tenants, second marriages are more likely to increase the proportions of owners than of tenants in the upper age brackets. The truly significant thing in this series

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[3] See James H. S. Bossard, "The Age Factor in Marriage," Amer. Jour. Sociol., XXXVIII, 1933; Otis D. Duncan, James Salisbury, Jr., Richard H. Simmons and John H. McClure, "The Factor of Age in Marriage," Amer. Jour. Sociol., XXXIX, 1934. Bossard has also consolidated the data of these two studies as well as other figures he has gathered in his book, Marriage and the Child. Philadelphia: Univ. Penna. Press, 1940, pp. 55-78.

of data is that far greater proportions of tenants of both sexes than of owners married during extremely early ages when the average ages at marriage could not have been influenced materially by second marriages.

To gain a better idea of the significance of the age of the population at marriage, it is desirable to study the mean ages of each sex marrying persons of the opposite sex within fairly regular age limits. For this reason, Table 72 has been constructed. It may be well to point out that the mean age of males at marriage was 26.6 ± 5.3 years for owners and 24.4 ± 4.8 years for tenants. For females the mean age at marriage was 21.7 ± 3.1 years for owners and 20.6 ± 3.5 years for tenants. It may be seen that the mean age of males at marriage in the owner group exceeded that of females by 4.9 years, while in the tenant group the mean age of males at marriage was only 3.8 years greater than that of females. For practical purposes, it may be said that the average age differential between husband and wife is one year less for tenants than for owners.

Table 72. Mean Ages of Persons Marrying Mates of Given Ages for 281 Marriages of Owners and 242 Marriages of Tenants

Age of mates	Mean ages of men marrying women		Mean ages of women marrying men	
	Owners	Tenants	Owners	Tenants
All ages	26.6 ± 5.3	24.4 ± 4.8	21.7 ± 3.1	20.6 ± 3.5
14 and below	---	26.0	---	---
15 - 19	23.5	22.0	17.6	17.6
20 - 24	26.4	25.4	19.9	19.7
25 - 29	29.5	29.1	21.6	21.6
30 - 34	35.4	---	23.8	24.1
35 - 39	42.5	34.5	25.6	24.4
40 - 44	40.0	39.0	30.2	23.0
45 - 49	---	47.0	25.5	32.0
50 - 54	50.0	33.0	32.3	---
55 - 59	---	---	36.0	---

Not only did tenants of both sexes marry earlier than owners of corresponding sex, but the data suggest a greater probability of marriage of immature persons, especially males, among tenants than in the owner class. The difference between the means of the two groups was 2.2 years for males and 1.1 years for females.

Because females married in the earlier ages of adult life in far greater proportions than males, the distributions of the mean ages of men marrying women are somewhat erratic for females over thirty years of age. This caused gaps to appear in the distributions of the mean ages of males. Actually, the mean ages of men marrying women 30 years of age and over are only nominal. The number of such marriages in the farm population is too small for any great statistical significance to be attached to it when only a small sample of a few hundred cases is used.[4]

Extreme variations occur in the means of the ages of persons marrying the opposite sex of given age description. There are many plausible reasons which may be assigned for this. In the first place, older men seem to have a penchant for marrying women whose ages are much below the usual spread between the ages of husband and wife. In the second place, after women have passed the ages of 25 or 30 years, they are more likely to marry a husband several years their junior than women of lower ages. In the third place, the proportion of all these exotic marriages to the total number of marriages is small both absolutely and relatively, and when concentrated into groups they tend to vary widely from the typical tendencies in all marriages.

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[4] In both the studies by Bossard and Duncan which have been cited above, it was found that with comparatively large samples, similar results obtained. It is only within age groups at which marriages are concentrated most heavily that the means of the ages of persons in either sex can be considered as representative.

The age differentials for husbands and wives are shown in Table 73. In the population studied here, the variations between the ages of mates are not as great as might have been expected. The range in the excess of the husband's age over that of the wife was from one to 28 years, while among the wives, who were older than their husbands, the range was from one to 20 years. The age differences are given in single years up to thirteen, but above that the distributions are too badly scattered to have any significance.

Table 73. Age Differentials for Husbands and Wives Shown in Percentages of Sex Same Age and Older Than Mates, by Tenure
(First Marriages Only)

Years Older	Percent of all 523 marriages		Percent of 281 owner marriages		Percent of 242 tenant marriages	
	Husbands	Wives	Husbands	Wives	Husbands	Wives
0	8.8	8.8	6.8	6.8	11.1	11.1
1	9.8	3.6	7.5	2.1	12.4	5.5
2	12.8	2.3	12.1	3.2	13.6	1.2
3	11.5	.9	11.7	1.0	11.1	.8
4	8.6	.4	8.2	—	9.1	.8
5	8.0	.6	8.2	1.0	7.9	—
6	5.7	.2	5.3	.4	6.2	—
7	6.3	.2	7.8	.4	4.5	—
8	4.2	—	4.3	—	4.1	—
9	1.7	—	2.1	—	1.2	—
10	4.6	.2	6.8	.4	2.1	—
11	2.1	—	2.8	—	1.2	—
12	1.0	—	1.1	—	.8	—
13 and over	6.3	.2	6.8	—	6.0	.4
Total	91.4	8.6	91.5	8.5	91.3	8.7

In this study 8.8 percent of all husbands and wives were the same age, while for the owner group 6.8 percent were the same age, and for the tenant group the proportion was 11.1 percent. The proportion of wives who were older than their husbands was 8.6 percent for the entire sample, 8.5 percent for the owner group, and 8.7 percent for the tenants. It is not known why the percent of tenant wives who are the same age as

their husbands should be almost twice as great for tenants as for owners, unless it may be due to the greater age of the owner group as compared with tenants, and the greater tendency of tenants of both sexes than of owners to marry very young. It is known that there was a predominance of bachelors of mature age among the early migrants into Oklahoma, and that many of these men had to postpone marriage until the female population became of sufficient maturity for marriage.[5]

The present study lends support to the thesis that as rurality increases variability in marital behavior of population groups seems to decrease which has been developed in the studies by Bossard and the writer. But this is to be accepted within limits. After an age differential of over 10 years occurs, the age factor in assortative mating seems to obey no distinct tendency, but begins to fluctuate highly erratically.

A final observation regarding the data in Table 73 is that in the tenant group 48.2 percent of all husbands' ages were greater than the ages

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[5]See Otis Durant Duncan, Population Trends in Oklahoma. Stillwater: Okla. Agric. Exper. Sta. Bull. 224, March, 1935, pp. 19-25, for changes in the marital condition of Oklahoma population. Bossard's study in Philadelphia in 1932 showed that 10.5 percent of the husbands and wives were the same age, 10.1 percent of the wives were older than their husbands, and 79.4 percent of the husbands were older than their wives. In the study made by the writer and his assistants in Payne County, Oklahoma, 7.0 percent of all husbands and wives were the same age, 7.5 percent of the wives were older than their husbands, and 85.7 percent of the husbands were older than their wives. Bossard's study was made in a strictly urban population; the Payne County study in a mixed farm and small town population, while the data being used at present are of purely farm population. But in spite of this variation in the nature of the population groups, these studies all show that the proportion of wives and husbands who are the same age is almost exactly equal to the proportion of wives who are older than their husbands in each population studied. These proportions are not necessarily equal in any two social groups, and in other population samples (outside the United States) studied by the writer they are not equal. However, the fact that in several samples studied in the United States they approach equality, including those in the present study, indicates that these data have significance for this country as a whole. See Bossard, op. cit.; Duncan, et al., op. cit.

of their wives by three years or less, while in the owner group the corresponding figure was 38.1 percent. Since the tenants, for the most part, were a younger group than the owners, this means that with the socio-economic development of the State, there is a decreasing spread between the ages of the sexes at marriage. This will probably continue until it approximates the normal difference in biological maturation for the sexes in the farm population, other factors being equal. As will be shown immediately, cultural differences in the sexes are relatively unimportant in determining the age at marriage for those members of the farm population who marry and remain on farms.

In studying the marital behavior of the population group composing the sample used, it is at once apparent that early marriage is the prevailing rule. This statement applies to those now living and remaining on the farm. There are reasons for believing that farm reared people of each sex who emigrate from the farm marry somewhat later than those who remain.[6] However, this particular point will receive attention further.

In Table 74, the cumulative percentages of persons of each sex marrying by age groups are given. In this table it may be observed that for both males and females in the tenant class the percentages marrying in early ages accumulated faster than for the owner group. The explanation for this, which has already been stated, appears to be that a much larger proportion of owners than of tenants "made the runs" of early settlement in Oklahoma as single persons. During this early period there was an acute scarcity of unmarried women of marriageable age

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[6]See Duncan, Salisbury, Simmons, and McClure, op. cit. This study showed that 60.7 percent of the men and 82.8 percent of the women married at age of 25 or below. The sample used in this study was mostly of migratory people who settled in the towns, villages, and on the farms of Payne County, Oklahoma, between 1895 and 1932. Compare the percentages given here with those in Table 74.

and a surplus of unmarried adult males.[7] This required time for correction. In the second place, there has been a tendency toward earlier marriages in the general population of this country so far as can be determined from the existing data, at least since about 1860.[8] Furthermore, the tenant group is not only younger but it is also a more impoverished, or at least a less well-to-do, group than owners. It happens to be true in this study that the age of marriage rises not only with the possession of greater wealth at the time of marriage, but also in those classes which have acquired wealth most rapidly after marriage. This table shows the contrasts in ages at marriage for the two sexes and the differences in the characteristic ages at marriage for the two tenure groups. Age difference at marriage in the sexes is a biological phenomenon, while between farm tenure groups its significance is of socio-economic origin. By condensing the age at marriage into five year periods as was done in Table 74, it was found that all tenant males were married before the age of 45 years, and that only an unimportant proportion of owner males were married after that age. Among the females of both tenure classes, only a minor percentage were married after they were 30 years of age.

Table 74. Cumulative Percentages of Farm Operators and Their Wives Who Married within Specified Age Limits, by Tenure

Sex and age groups	Percent marrying within age group		
	All operators	Owner operators	Tenant operators
Males			
19 and below	7.1	4.1	10.3
20-24	51.9	42.4	62.7
25-29	81.9	77.9	87.9
30-34	90.9	89.0	94.2
35-39	95.4	93.5	98.3
40-44	97.9	97.6	100.0
45 and over	100.0	100.0	---
Females			
14 and below	.2	0.0	.4
15-19	39.7	34.6	45.9
20-24	84.8	80.3	90.3
25-29	95.3	93.1	98.0
30-34	97.3	96.8	98.8
35 and over	100.0	100.0	100.0

[7] See Otis Durant Duncan, Population Trends in Oklahoma.

[8] See Otis Durant Duncan, Trends in the Modern Family in America (unpublished study).

The foregoing data lend credence to the thesis that marriage is essential to the farm population.[9] It will be recalled that Bossard's study of age at marriage in Philadelphia indicates that the urban population of both sexes marry later than the present study shows for the strictly farm population. While the data here do not expressly show that those who marry early have their opportunities for leaving the farm reduced, they suggest the hypothesis that this may be the case, since early marriage and the accumulation of dependents obviously make emigration from the farm more expensive and difficult. It has been shown that the bulk of urbanward migrants are unmarried people in the early ages of adult life.[10]

All in all, in this study there is a fair degree of uniformity as to age at marriage for husbands and wives, if an initial spread of about two years is allowed for the earlier maturation of the female. The age factor in marriage is one of the most important influences upon sexual selection. In this study, it was thought desirable to determine the degree of correlation between the ages of husbands and wives at the time of marriage. The coefficient of correlation for the entire sample was $+.571 \pm .030$, for the owner group the coefficient was found to be $+.582 \pm .040$, and for the tenants it was $+.493 \pm .048$.[11] The difference which

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[9] See Pitirim Sorokin and Carle C. Zimmerman, Principles of Rural-Urban Sociology. New York: Henry Holt and Company, 1929, pp. 226-230.

[10] Substantiation of this assertion may be found in studies on rural migration by C. C. Zimmerman and his associates, American Journal of Sociology, Vols. 32, 33, 36; Social Forces, March, 1930; Journal of Farm Economics, Vol. 10; also in data given by writer on "Sex Ratios and Marital Condition of Adult Populations of Different Types of Communities in the United States," Social Forces, XII, p. 224.

[11] In a discussion of this point before the Sociology Division of the Southwestern Social Science Association in Dallas, Texas, March 30, 1934, the writer expressed an opinion to the effect that it was probable that tenure status might be the source of significant variations from the general marital behavior pattern for a given population. The results obtained here seem to lend a modicum of justification for that belief.

was found in the coefficient of correlation for tenants in comparison with owners may be taken to indicate simply that while the selectivity of age in marital behavior among tenants is significant, it is less uniform in its operation than within the owner group. What is the explanation of this? From the previous studies by the writer and Bossard it was found that when the mean ages of women marrying men of a given age is lower than 20 years, the average ages of men tend to exceed those of the usual age difference between husbands and wives. Since it has been shown that the ages of tenant wives are at marriage somewhat lower than owner wives, the conclusion follows that in the more youthful marriages of tenant wives, the husbands' ages are greater than those of their wives by more than the average. This may be seen by referring again to Table 72. On the other hand, marriages occurring after middle age has been reached tend to follow no regular age uniformity. But since the bulk of all marriages are made in late adolescence and early adulthood, the weight of the exotic age relationships in these early ages seems to be the determining factor.

Not only has it been found that when the same methods of study are applied do variations in the selectivity of age occur in one social group in comparison with another in the same area, but there are also variations in this respect between different geographical and types of farming areas. The writer has found coefficients of correlation between the ages of husbands and wives varying from .503 $\pm$.022 in eleven southern cotton counties of Oklahoma taken as a whole up to .761 $\pm$.021 in a single county of this same cotton growing region. All this has suggested that while there may be a general pattern of age at marriage for the population as a whole, variations from it may arise in accordance with local folkways,

geographic factors, socio-economic organization, or numerous other distinctive features of the milieu in which the people may live.

4. Education as a Factor in the Selection of Mates.

There is no recognized specific measure of education. Group standards, convenience, or mere habit has led to the establishment of grade designations as the equivalent of the education possessed by an individual. However, this is at best a rough arbitrary approximation, because the grade finished at school represents mostly compliance with a formal discipline. Inadequate as it may be, the grade completed does seem to be a process of societal selection.

The data showing the percentage distribution of both operators and their wives have been given separately in previous tables, and it has been observed that not only did the majority of all family heads included in the study have the equivalent of an eighth grade education or more, but around 50 percent of them gave the eighth grade as being the highest grade finished. But in spite of this clustering of the data so closely about a single point, there is a tendency for the distribution curves depicting the education of mates of each sex to be fairly synchronous. In this study the coefficient of correlation between the grade finished by husbands and that of wives was found to be $+.572 \pm .029$ for the entire sample, $+.555 \pm .041$ for the owner group, and $+.655 \pm .036$ for the tenant class. These coefficients are all indicative of a close association of education with choices of mates. However, the fact that the educational advancement of husbands and wives is very closely similar, whether plotted on a coordinate or a simple frequency projection may give rise to conjecture as to whether the existing relationships are merely incidental or actually selective.

A clarification of doubt as to the validity of the above correlation coefficients may be possible when it is understood that the means in the two tabulations for both men and women were placed at approximately the eighth grade. Since this eliminated from the products the entire weight of about half the sample in both men and women, the correlations obtained indicate that the deviations from the means are distributed with a fair degree of consistency in either direction from their respective means. In other words, if all persons who gave the eighth grade as the last finished were eliminated from the samples, there is evidence that the educational factor would still be selective in marriage. This could not be said if the dispersion of the data on either side of the means were highly erratic. Not only that, but also there is the evidence offered by similar studies made by the same methods which have produced comparable results.[12] It is the contention of the writer, therefore, that there is a significant functional association in the factor of education and the choice of mates for the farm population of Oklahoma.

The average grade finished in school by both husbands and wives marrying mates who had received specified numbers of years of schooling are shown in Table 75. In this table, college education is represented by continuing the grade designations used for the public schools up to 17, which actually means the equivalent of a master's degree. The significance of Table 75 is that it shows in detail the functional association of education and choice of mates for each single year of education received.

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[12] Using three other samples of farm population from different parts of Oklahoma, the writer has found a correlation coefficient of .594 ± .019, .704 ± .026, and .529 ± .043 respectively, in each of the three samples when the grades finished by mates are the variables being correlated.

Table 75. Average Grade Finished in School by Men and Women Marrying Mates Having Specified Number of Years of Schooling, by Tenure

Stated number of years of schooling of mates	Average grade finished by men marrying women having stated number of years of schooling			Average grade finished by women marrying men having stated number of years of schooling		
	All men	Owners	Tenants	All women	Owners	Tenants
All persons	7.8 ±2.6	7.5 ±2.5	7.9 ±2.6	8.1 ±2.8	8.4 ±2.5	8.1 ±3.0
0	3.0	—	3.0	6.2	6.7	5.0
1	—	—	—	2.0	6.0	—
2	1.5	2.0	2.0	8.0	8.0	8.0
3	4.6	3.0	8.0	6.4	6.1	6.7
4	4.4	4.0	8.0	6.5	6.1	6.8
5	5.1	4.9	5.2	6.7	6.7	6.9
6	5.9	5.8	5.9	7.2	7.4	6.8
7	6.6	6.6	6.9	8.4	8.9	7.9
8	7.6	7.5	7.6	8.8	8.6	8.9
9	8.8	8.3	8.5	9.3	9.1	9.3
10	8.3	8.0	8.0	10.4	10.8	10.3
11	8.9	12.0	8.4	10.7	11.0	10.7
12	9.6	9.1	10.2	11.5	10.5	11.9
13	9.0	8.3	9.5	11.6	9.5	13.0
14	10.6	11.9	9.6	12.5	11.9	13.3
15	12.1	15.0	11.7	13.5	13.5	—
16	11.2	9.5	12.2	14.0	11.0	15.5
17	—	—	—	14.0	14.0	—

From Table 75, it may be observed that for those professing to have received no schooling whatever, the average education for their mates is biased upward, which is logical, because it is impossible for an individual to have received less than no formal education at all. On the other hand, for the upper extremes, the average education of mates can deviate downward from the number of years specified, but not upward because the maximum limit is also fixed by the nature of the scale used. Probably these limitations of the data together with the smallness of the samples in both extremes are responsible for the greatest sources of error in an attempt to correlate mathematically the two variables being considered.

In studying the above data, it may be further observed that not only did the women receive slightly more education on a general average than their mates, but also, excepting at the extremes, the differences are fairly uniform even as the amounts of education received by both husband and wife either increase or diminish. The question may be raised again, however, if mating were entirely a matter of chance, would there remain a tendency for noticeable incidental correlation between the amounts of education received by husbands and wives? Such a relationship is not improbable because approximately one-half of both men and women in this study actually stopped school at the end of the eighth grade. While this is admittedly likely, the data as represented in Table 75 show that there is a functional association between the amounts of education received by mates both above and below the eighth grade, except for the extremes. The data suggest that education is an important factor in determining the environments in which mates are assorted.

While it has been found that there is a significant functional relationship between the education of husbands and that of their wives, and that the same is true in regard to the ages of husbands and wives, it does not follow that there is a tangible correlation between the grade finished and the age of each sex at marriage. This statement applies to farm population only. In the sample taken from the north central winter wheat belt of Oklahoma, it has been found that the correlation between the grade finished by husbands and the age at which they married was $+.122 \pm .045$, and for wives in this area the corresponding relationship was $+.043 \pm .043$. In three other Oklahoma samples studied by the writer the same relationships gave coefficients of $+.073 \pm .060$; $+.118 \pm .040$; and $+.046 \pm .026$ respectively for men, and $+.138 \pm .059$; $+.112 \pm .046$; and $+.066 \pm .001$

respectively for women. Inasmuch as none of these studies has indicated a significant association between education and the age at marriage for either sex, it was not deemed necessary to break the sample down into tenure classes on this point.

What seems to be the explanation of the above fact when it appears inevitable that the prolongation of the period in school would necessarily mean the postponement of marriages? It will be recalled by referring to Tables 55 and 70 that 95.0 percent of the operators and 90.5 percent of the operators' wives in this study did not pursue their education beyond high school. On the other hand, only 7.1 percent of all male operators and 39.7 percent of all operators' wives married below the age of 20 years. Assuming school life to have begun at the age of six years, those graduating from high school would have ended their schooling at age 18. However, 79.7 percent of the male operators and 69.0 percent of their wives did not go beyond the eighth grade. Allowing a two year retardation period for all those who ended their education with the eighth grade, they would have been through school by the age of 16 years. From this it can be seen that for the most part, even finishing high school does not greatly interfere seriously with marriage, and for the great bulk of the farm population which never entered high school it is probably that there was a lapse of several years, in the case of males especially, between the close of the school period and marriage. The majority of the persons in this sample were not faced with the problem of deciding whether to continue in school or to marry. The two events occurred for the most part in two entirely different physiological and psychological intervals in the lives of these people.

5. Inter-Occupational Selection in Marriages of Operators and Their Wives.

The preponderance of agriculture as a background for the population group being studied is overwhelming. Among the married operators in the sample, 93.1 percent of the males and 90.1 percent of the females gave farming as their paternal occupation. This being true, the factor of inter-occupational selection in marriage for a farm population sample offers only a very limited range of study. The number of persons coming from non-agricultural antecedents is both so small and so widely dispersed among various occupational groups that to try to treat each class separately seems inadvisable in this study. In Table 76 there are a few rough comparisons for tenure groups which appeared justifiable.

Table 76. Inter-Occupational Selection in 537 Marriages Shown in Percentages for Characteristics Specified

Tenure group and form of inter-occupational selection	Percent of group	
	Operator	Operator's wife
All farmers		
Paternal occupation, farmer	93.1	90.1
Paternal occupation, non-farmer	6.9	9.9
Farm origin and marrying mate of farm origin	91.0	94.0
Non-farm origin but marrying mate of farm origin	78.4	85.1
Both mates of farm origin in a random sample	84.7	84.7
Owners		
Paternal occupation, farmer	91.0	90.7
Paternal occupation, non-farmer	9.0	9.3
Farm origin and marrying mate of farm origin	92.4	92.8
Non-farm origin but marrying mate of farm origin	73.1	70.4
Both mates of farm origin in a random sample	84.1	84.1
Tenants		
Paternal occupation, farmer	95.5	89.5
Paternal occupation, non-farmer	4.5	10.5
Farm origin and marrying mate of farm origin	89.4	95.5
Non-farm origin but marrying mate of farm origin	90.9	92.3
Both mates of farm origin in a random sample	85.4	85.4

From the limited data in Table 76, it is possible to make a few tentative generalizations as to occupational influence upon assortative mating in this particular sample of farm population. First, it may be

observed that 93.1 percent of the operators as compared with 90.1 percent of their wives were reared on the farm, while 91.0 percent of the operators and 94.0 percent of the operators' wives married mates who were farm reared. Taking the entire sample as a whole, the chances that in any given family taken at random that both husband and wife were of agricultural origin are about 85 out of 100.

There are also perceptible indications that between the tenant and owner classes there are slight differences as to the influence of occupational origin upon occupational selection. Among the male heads of families 91.0 percent of the owners and 95.5 percent of the tenants originated in agriculture, while for the female heads, the corresponding proportions are 90.7 percent and 89.5 percent respectively. On the other hand, 92.4 percent of the owner and 89.4 percent of the tenant operators are farm reared and married to farm reared mates, while 92.8 percent of the owner and 95.5 percent of the tenant wives are farm reared and married to mates of farm origin. True enough, the differences shown in these comparisons are quite small, but at least they suggest a point for more detailed study later on. It is highly probable that the differences between persons of the same sex but in different tenure classes as to marriage into agricultural families may be explained on the basis of the age factor. It is known that tenants are on the whole a younger group than owners. This being true, it is likely that the automobile and paved roads do not offer the owner as great an opportunity to seek a mate outside the confines of his home neighborhood as is open to the tenant, in many cases the son of an owner, and in the majority of cases a product of a different generation from the owner operator. The fact that 92.4 percent of the male owners and 92.8 percent of the female

owners of farm rearing married mates of farm origin lends supporting evidence to this line of reasoning.

It is significant that of those whose parental occupation was non-agricultural 73.1 percent of the male owners and 90.9 percent of the tenants, 70.4 percent of the female owners, and 92.3 percent of the female tenants married mates from agriculture. This, in all probability, is a phenomenon closely related to the character of the early settlers in Oklahoma who were attracted by the prospect of cheap land and who drifted into the territory from all walks of life. There being no cities or towns when the strips were opened, there were few ways by which the immigrants could make a living except by going into agriculture, little matter what their previous skills or occupations had been. Unfortunately, there are no reliable statistics showing the previous occupational status of the early migrants to Oklahoma, but only the occupations which they took upon arrival.

Why do male tenants reared in agriculture exhibit a greater predisposition to marry away from agriculture than females of similar origin? That is a question that is easy to ask but hard to answer in the light of what the available data actually reveal. In the owner class their differences are not noticeable. It will be observed that the 96.5 percent of farm reared females in the tenant class married into agriculture as compared with 89.4 percent of the males of similar origin and status. This may indicate that on the farm the male has greater freedom of choice in marriage than the female, particularly in the poorer families. It is probable that a wider range of contacts is open to males than to females in these social strata. But it cannot be said that this difference is due to more males than females drifting into agriculture from non-agricul-

tural occupations because only 4.5 percent of the tenant males were of non-agricultural origin as contrasted with 10.5 percent of their wives. Evidently the explanation of this phenomenon is that it is to some extent a function of inter-neighborhood mobility on the part of the males.

When taken as a whole, there is not much difference between tenure groups as to the probability of any family selected at random being entirely agricultural. The data show that in the owner group, the chances are 84.1 out of 100 that both the husband and the wife were farm reared, while in the tenant class the chances of such selection are 85.4 out of 100. While this discrepancy is so small as to be of doubtful consequences, if it means anything, it is that as Oklahoma agriculture becomes more settled and permanent in all its features, there is less need or less likelihood that the youth will have to go elsewhere in order to find mates. There are tangible evidences to show that this judgment is correct. In 1900, the population of Oklahoma, judging by the number of gainfully employed persons 10 years of age and over, was 70.1 percent agricultural, while in 1930 only 57 percent of the gainfully employed persons in the State were engaged in agriculture. In 1900, there were 115.6 males to 100 females of all ages and 109.7 males to 100 females ages 20 to 24, inclusive, while in 1930 there were 106.1 males to 100 females of all ages and 98.2 males to 100 females of ages 20 to 24, inclusive.[13] From this it can be seen that the non-agricultural population has almost doubled relative to the agricultural within a generation. The youth have a greater opportunity for marrying both inside and outside agriculture than was true a few decades ago. However, the main thing is that the sex ratios in agriculture are less distorted toward

[13] See Otis Durant Duncan, Population Trends in Oklahoma, p. 17.

masculinity now than formerly, although for the farm population of Oklahoma in 1930 there were 180.3 males per 100 females among those of marriageable age but never married. It is probable that with increasing opportunities for marriages within the farm population, that the proportion of intra-agricultural marriages may not diminish in the future, particularly among those elements of the farm generated population who either elect to or are forced by circumstances to remain on the farm.

CHAPTER VIII

THE LIFE CYCLE OF THE FARM FAMILY

1. The Approach to the Problem.

In speaking of the "family" here, it is understood that the term is to be applied in the narrow sense of the biological or the genetic family composed of the husband and wife and their immediate offspring. Obviously there are individual cases in which this strict delimitation cannot be followed literally. It is necessary to include under this category such groupings as a household composed entirely of children whose parents have died, those in which either the husband or the wife has been widowed, and those of family heads who have been married more than once. The investigation is concerned with a random sample of the farm population in the area in which the survey was conducted. Therefore broken families and remade families of all kinds must be taken into account for they comprise a fairly significant proportion of the farm population.

In preceding parts of the discussion the use of the term "family" has been avoided when the reference was not of biological import, and the appellation "household" has been applied when reference was made to the complete aggregation of persons sharing a common board and shelter. It is recognized that when thought of in either a sociological or an economic sense the family may include persons of all shades of kinship, of even non-kindred relations. However, in the portion of the study now at hand, it is intended to restrict the conceptual family exclusively to the conjugal, filio-parental group, and of course those relationships which satisfy this limitation in a legal sense. In ordinary language, step-

children and legally adopted children will be regarded as children of the marriage bed. However, sons-in-law and daughters-in-law are automatically excluded.

The object of the investigation on the growth of the family is to discover the cyclical changes which occur in the farm family due to births, deaths, maturation, and emigration during the period dating from the time of the formation of the conjugal union of the parents until the final disintegration of the original family unit takes place. Already, the marital behavior of the propositi, the male and female heads of families, has been described in Chapter VII. That portion of the study dealt with certain factors controlling, limiting, or otherwise related to the formation of the households. In Chapter IV, a description of the socio-economic organization of the household has been given. In chronological sequence a study of the household precedes an inquiry into vital processes for the simple reason that often a new household, immediately after its formation, will begin absorbing population such as the parents of the householders, fraternal relatives, persons of remote kinship, and even unrelated persons long before there is any natural increase whatever. This does not mean that the genetic growth of the household is not its most important characteristic. However, time is required in order for children to arrive while adult persons may be added to the household almost simultaneously with its formation.

2. Variations in the Sizes of Families.

Roughly speaking, the genetic life of a family covers a span of approximately 30 years. The ordinary child-bearing period of a woman's life is from puberty, or around the age of 14 or 15 years, to the age of 45 or 46 years. While there are cases known in which women have borne children

outside these age limits, their frequency is too seldom to be of statistical significance, in the latitudes of the United States at least. For this reason the period of child-bearing has been defined as extending from marriage to the age of 45 for the wife. There are evidences in the data presented in this portion of the study which indicate that the number of children born actually may increase even after a family has been in existence for 30 years or longer. However, this can be explained in part by the remarriage of men with young women after the termination of a former marriage by death or divorce. In instances of this kind the original family may have remained intact partially and had a second family simply spliced on to it. In other words, the growth of a family of this type represents the fertility of the father more than that of the mother. It is hardly correct to discard these "patched up" families, even if it is not according to the most refined statistical usages to include them. The present study is devoted to the task of describing population phenomena rather than of developing and illustrating statistical techniques. This is an admitted limitation of the study, but one which does not militate seriously against its intended purposes.

In Table 77, percentage distributions of operators and children according to the duration of family life by five year periods is shown for owner and tenant families. The primary purpose of this table is to show the difference in age distribution of families in the two main tenure groups, which is of primary importance in studying the genetic increase of the family.

An examination of the data in Table 77 will reveal that only 16.2 percent of owner families compared with 49.7 percent of the tenant families were still within the first half, or the first 15 years of their child-bearing life. Also, 40.0 percent of the owner and only 17.7 percent of

the tenant families had reached and gone into the non-child-bearing period in their life cycles. There is a surprising degree of uniformity in the distribution of tenant families by five year periods as compared with owner families.

Table 77. Percentage Distribution of Parents and Children of Owner and Tenant Families According to Duration of Family Life

Duration of family life in 5-year periods	Percent of parents			Percent of children		
	All parents	Owner parents	Tenant parents	All children	Owner children	Tenant children
Total	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	6.7	1.7	12.6	1.5	.2	3.4
5 - 9	12.1	5.5	19.8	6.2	2.7	11.1
10 - 14	12.8	9.0	17.4	9.4	6.0	14.3
15 - 19	13.0	12.1	14.2	13.2	10.9	16.1
20 - 24	15.1	16.2	13.8	15.8	12.9	20.0
25 - 29	12.5	14.5	10.2	14.5	14.2	15.0
30 and over	27.1	40.0	11.7	38.9	52.4	19.8
Unknown	.7	1.0	.4	.5	.7	.3

There is a constant metamorphosis within the farm population by which process changes in socio-economic status of families is almost continuous. It may be recalled by referring to the discussion of Table 50 that the percentage of tenants who were related to their landlords varied from 17.3 percent up to 46.2 percent in the counties surveyed. It was shown in Table 53 that 45.9 percent of the full owners and 63.4 percent of the additional owners in this sample had had prior experience as tenant operators. Assuming the continuance of these conditions, it is to be expected that as the families which are now tenants become older their status will be changed to that of owners in almost half of the cases, if family heads survive 30 years of married life. On the other hand, it is apparent that young married couples begin farming mostly as tenants, and that the heavy proportion of owner families more than 30 years old is swollen both by the

survival of young owner families and the shifting of tenants into the position of owner families with the advance of age. In the long run, it is not to be expected, upon this hypothesis, that the curve showing the age configuration of tenant families will assume a shape similar to that for owners, but that it will remain somewhat as it is, and that the older tenant families will become owners. In other words, the aging of the tenant population does not cause their age distribution curve to become synchronous with that for owner families but enables the tenant families to take the places vacated by owner families because of death, retirement, or emigration from their farms.

The same 16.2 percent of the owner families which were within the earlier half of their generative cycle contained only 8.9 percent of the total owner children, while the 49.7 percent of the tenant families which were in identical age classifications had produced 28.8 percent of all tenant children. On the other hand, the 40.0 percent of the owner families which had existed 30 years or longer had 52.4 percent of the owner children, and the 11.7 percent of the tenant families of similar age had 19.8 percent of the tenant children. This leaves 43.8 percent of the owner families in the second half of their child-bearing life with 38.7 percent of the owner children, while 38.6 percent of the tenant families in the same period had 51.4 percent of the tenant children. Immediately, it is apparent that the transfer of large proportions of tenant farmers in the second stage of child bearing life will swell the proportion of children in the older owner families enormously.

In Table 78 the percentage of families operating different sizes of investments has been set up according to five year variations in the duration of family life. The use of this table is as an auxiliary to the interpretation of Table 79, the relation of the size of the investment to

the age of the operator having been previously explained. While the age of the operator does not necessarily determine the age of his family, the two factors have at least a functional relation with each other.

Table 78. Percentage Distribution of Families in Different Sized Investment Groups According to Duration of Family Life

Duration of family life in 5 year periods	Percent of families which were of specified duration in investment groups					
	All groups	Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
Total	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	6.7	13.7	3.2	4.2	4.9	.6
5 - 9	12.1	20.6	17.7	4.2	6.6	3.7
10 - 14	12.8	16.8	16.2	4.2	13.1	9.2
15 - 19	13.0	12.2	16.2	14.9	14.8	11.7
20 - 24	15.1	14.2	14.5	17.1	16.4	15.3
25 - 29	12.5	8.3	14.5	12.8	21.3	13.5
30 and over	27.1	14.2	14.5	42.6	22.9	44.8
Unknown	.7	---	3.2	---	---	1.2

In Table 79 the percentages of children of families having different sizes of investments are shown according to the ages of the families to which they belong. The significance of these data may be appreciated by comparing the proportions of all children of each investment group who belonged in families of given age. In the first place it is noticeable that there is almost a complete absence of children in the larger investment classes among the young families in the first five year period of their existence. This is partly due to the fact that there were few of these young families who operated large investments, and also in part to low fertility of those families. It is also to be observed that the proportions of children in families having investments of less than $5000 were only about one-half as large on an average as in families with investments of $5000 or larger in the families which were 30 years old and

over. In the families in the sample, the principle of an inverse relation between generation and economic status seems to be operative within limits. The effective limits on the proportion of children in the larger investment groups seem to be determined by the proportion of parents in the same groups. This principle does not hold in the lower age groupings where the numbers of prospective parents are relatively greater than the numbers of children and in the older families where the numbers of children are relatively greater than the numbers of parents and family heads.

Table 79. Percentage Distribution of Children in Different Sized Investment Groups According to the Duration of Family Life

Duration of family life in 5 year periods	Percent of children in investment group which were in families of specified duration					
	All groups	Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
Total	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	1.5	3.8	.6	---	1.2	---
5 - 9	6.2	11.0	12.6	2.4	2.3	1.5
10 - 14	9.4	12.9	10.1	6.6	9.3	6.3
15 - 19	13.2	15.7	15.7	8.4	18.5	9.3
20 - 24	15.8	20.8	13.8	12.1	12.2	13.4
25 - 29	14.5	11.8	22.7	15.7	21.0	13.1
30 and over	38.9	24.0	21.4	54.8	35.5	55.7
Unknown	.5	---	3.1	---	---	.7

In Table 80, the ratios of the percentages of children to the percentages of parents are given for tenant and owner families according to the age of the family. These figures were derived from those given in Table 77, in which the percent of families in each age classification was used as a base number and the percent of all children in the same family age group was expressed in relation to that base. The assumption was that if the quotient obtained was 100, the families in the age group for which such a result was found were producing their expected number of

children, and variations in either direction may be interpreted to mean that the families of a given age have produced more or less than their expected number of children, depending upon whether the deviations are positive or negative.

Table 80. Ratios of Percentages of Children to Percentages of Parents in Each Tenure Class According to Duration of Family Life

Duration of family life in 5 year periods	Ratio of percentage of children to percentage of parents in families of specified duration		
	All farmers	Owners	Tenants
Total	100.0	100.0	100.0
0-4 years	22.4	11.8	27.2
5 - 9	51.2	49.1	56.1
10 - 14	73.4	66.7	82.2
15 - 19	100.8	90.1	113.4
20 - 24	104.6	79.6	144.9
25 - 29	116.0	97.9	148.5
30 and over	144.1	131.0	169.2

Because of the tendency for families to increase in size as they increase in age during the child-bearing period, it is of little consequence that the ratios of children to parents is small in young families and grow larger in the old families. The significant point in Table 80 is the spread between the ratios of owner and tenant families of the same age and the fact that in every instance the ratio for tenants was larger than for owners. In the first place, this means that the tenant families were more fertile than owner families at all ages. This suggests that in the shift from tenancy to ownership the less fertile tenant families become owners before the more fertile. If this hypothesis be true, it adds support to a similar contention made by the writer in a former study of cotton farmers in Oklahoma.[1] The tenant family, taken by and large, is not exces-

[1] See Otis D. Duncan and J. T. Sanders, A Study of Certain Economic Factors in Relation to Social Life Among Oklahoma Cotton Farmers. Stillwater: Okla. Agric. Exper. Sta. Bul. 211, April, 1933, p. 15.

sively more fertile than the owner family, as will be shown in connection with Tables 82 and 84.

Table 81 has been constructed according to the same procedure and for a similar purpose as that employed in Table 80. The difference between the two tables is that the size of the investment operated was made the basis of comparison instead of tenure status.

Table 81. Ratios of Percentage of Children to Percentage of Parents with Different Sizes of Investments According to the Duration of Family Life of the Operator

Duration of family life in 5 year periods	Ratio of percentage of children to percentage of parents in families having different sizes of investments according to 5 year periods of family duration					
	All investment groups	Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
Total	100.0	100.0	100.0	100.0	100.0	100.0
0 - 4 years	22.4	27.7	18.6	0.0	24.4	0.0
5 - 9	51.2	53.4	71.2	57.1	34.8	40.5
10 - 14	73.4	77.3	62.7	157.1	71.0	68.5
15 - 19	100.8	128.7	97.5	56.4	125.0	79.5
20 - 24	104.6	146.5	95.2	70.6	74.4	87.6
25 - 29	116.0	142.2	155.9	122.7	98.9	96.3
30 and over	144.1	169.7	147.6	128.6	155.0	124.3

The data in Table 81 indicate that the poorer farmers reproduce themselves generally with greater prolificacy than the more well to do. This is by no means a phenomenon that is new to population students. However, it is not always recognized in studies of this kind that poverty and squalor are not necessarily associated with human reproduction uniformly within different levels of the same general population group. For example, except for inevitable inconsistencies in sampling, the deviations from expectancy in the ratios of children to families are not significantly different in the $5000 to $7499 investment group from those in the $10,000 class, and it is only in the extreme lower and upper classes of farmers that there is anything like a progressive increase in the ratio of children

to parents with advancing age of families. In the intermediate investment groups there is no uniform principle of population increase. This means only one of two things. Either socio-economic gradations are too artificial and arbitrary to be selective or the variations are so gradual that inadvertant errors in sampling may destroy any uniformity of change which might occur except in contrasts between the utmost extremes.[2]

In Table 82, the number of living children per 100 families is given according to five year periods of duration of family life up to 29 years. The reason for this division has been given in a preceding paragraph. In this table the number of living children has been cast against a standard number of marriages in each age period of family life, and the figures thus obtained represent standardized rates of increase for the population. However, all marriage unions were counted in the bases employed. The results are, therefore, somewhat lower than would have been the case had all infertile families been discarded. The object in this procedure is to find out the fertility rate for each division of the population as a class, rather than simply for the fertile families.

Table 82. Number of Children Per 100 Families for Owner and Tenant Families According to the Duration of Family Life

Duration of family life in 5 year periods	Number of children per 100 families in tenure groups by five year periods of family duration		
	All groups	Owners	Tenants
Total	314.9	341.4	283.8
0-4 years	72.0	66.7	77.4
5 - 9	160.0	162.5	159.2
10 - 14	230.4	226.9	232.6
15 - 19	315.7	308.6	322.9
20 - 24	330.9	272.3	411.8
25 - 29	367.2	335.7	420.0
30 and over	455.8	447.4	479.3

[2] See also C. E. Lively, The Growth Cycle of the Farm Family. Columbus: Ohio Agric. Exper. Sta. Mimeograph Bull. 51, 1932, pp. 20-21.

As would be expected, the average number of children per 100 families rises successively as the duration of family life increases for the sample as a whole. When owner and tenant families were counted separately, there was an occasional deviation from this rule in the owner population which can mean only that typical samples are not always obtained in each sub-division, but these variations are so infrequent as to be of minor importance. The outstanding characteristic of Table 82 is the spread in and between the numbers of children in the families of tenants and owners. In the youngest families, those existing four years or less, the natural increase was greater by 10.7 children per 100 families for tenants than for owners. Then, as the mid-child-bearing period is approached, the sizes of tenant and owner families approximate equality, but in the latter phases of the cycle, tenant families become perceptibly more fertile than owner families. However, on the whole there were 57.6 more children per 100 owner families than for those of tenants.

What is the explanation of this phenomenon? Tenant families are younger than owner families for the most part, and a larger proportion of them were formed very early in life. It was shown in Table 71 that 10.4 percent of the tenant husbands and 45.9 percent of tenant wives married at the age of 19 and below, while the corresponding figures for owner husbands and wives were 4.3 percent and 34.2 percent respectively. This has the effect of placing a heavier proportion of tenant than owner families in the earlier and most fertile periods of child-bearing life. Also, it increases the probable span of child-bearing life for tenants over that of owners, and makes possible a greater total fertility for tenants than for owners. But the fact that the total fertility of owner families appears to be greater than that of tenants offers a seeming contradiction

to the theory. It must be remembered that there is a smaller proportion of tenant than owner families which have completed their generative cycles, as was shown in Table 77. Also, the operation of the agricultural ladder will draw heavily upon the younger tenant families who in later years will become owners. This point has been emphasized repeatedly at various points in the progress of the study.

The question that arises next is, in the shift from tenancy to ownership, which families will become owners most often, those that are very large, those that are average in size, or the very small tenant families? Judging by the sizes of both the oldest and the youngest families, it appears that the tenants which become owners most easily are those having families of medium size. The popular theory of over-population by tenant families resolves itself when examined critically into a rather simple statement. Tenancy as such is not necessarily a factor conditioning the size of families. There is, however, a residue of tenant families which under no possible system of land tenure, except perpetual governmental guardianship, would ever become owners. These are the tenant families which are excessively prolific. The writer has estimated in an earlier portion of the study that this residue is around one-fifth of the tenant population. While the reasoning may appear circular, it seems that tenancy is not so much a causal factor in large families as large families are contributory to tenancy.[8]

The question of the causal relation of tenancy to the size of families is not one which can be settled easily. There are other factors involved. In Table 83, it will be found that the size of the investment,

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[8]For the application of the same arguments to other portions of the farm population of Oklahoma, see Duncan and Sanders, loc. cit.

the economic unit operated, is also somewhat related to this problem. In this table the best idea of the concomitance of size of families and size of investments can be gained by the comparison of extremes.

Table 85. Number of Living Children Per 100 Families of Different Investment Groups According to Duration of Family Life

Duration of family life in 5 year periods	Number of living children per 100 families in investment groups by 5 year periods of family duration					
	All investment groups	Up to $2499	$2500 to $4999	$5000 to $7499	$7500 to $9999	$10,000 and over
All periods	314.9	299.5	256.4	353.2	282.0	357.7
0-4 years	72.2	82.1	50.0	---	66.7	---
5 - 9	160.0	159.5	181.8	200.0	100.0	150.0
10 - 14	230.4	232.4	160.0	550.0	200.0	246.7
15 - 19	315.7	384.0	250.0	200.0	355.6	284.2
20 - 24	330.9	437.9	244.0	250.0	210.0	312.0
25 - 29	367.2	423.5	400.0	433.3	276.9	345.4
30 and over	468.8	506.9	377.8	455.0	435.7	445.2

While it is true that there is, on the whole, a successive increase in the size of families as the age of the families increases, there is no such uniformity either direct or inverse when the size of families is cast against the size of investment. Also, the uniformity of the increase in the size of families with advancing age is somewhat broken down by the sub-division of the families with different sizes of investments except for the two extremes. This means that age and biological factors in the number of children born per family take precedence over economic forces in the final analysis of the problem. Taken as a whole, the farmers with investments of $10,000 and over appear to have larger numbers of children per family than those whose investments amount to less than $2500. But a casual glance at the totals is likely to prove misleading. A closer examination will reveal more fully the true relationship between the size of investments and the size of families.

In the first place, it has been demonstrated that in almost every case a sorting of the sample on an economic basis is also a selection of tenants for the lower and of owners for the upper groups. Since tenants are usually younger than owners, it will also follow that farmers with small investments are younger than those whose investments are large. From this follows the deduction that in the group with the smallest investments there is ordinarily the largest proportion of incompleted and very young families. For a verification of this, see Table 78. For example, 13.4 percent of all families with investments of less than $2500 were less than five years of age while only .6 percent of those with investments of $10,000 and over come within this age limit. The heavy proportion of beginning families in the small investment class, therefore, reduces the average total fertility of that class while on the reverse, the larger proportion of completed families in the large investment group raises its total fertility disproportionately. But in comparing the same two extreme investment groups after 30 years of married life, it will be seen that those with investments of less than $2500 had 506.9 against 445.2 children per 100 families in the $10,000 and over investment group, or a difference of 61.7 in favor of the poorer farmers. It seems, then, that the type of farmer who is destined to be poor throughout life is the man who marries unduly young and who acquires a large family more rapidly than property, and who has a large number of consumers to feed long before he has accumulated sufficient land and capital to enable him to support them. Then in old age, after his productive years are gone, this type of farmer is unable to extricate himself from the rut of habit into which he is mired down by the experience of his life time.

Altogether the sample employed contained 466 fertile families. This

leaves 71 childless marriages, and 24 households of bachelors and one spinster, out of the total 562 farms surveyed. These child-bearing families produced 1686 living children, 268 owner families having 980 children and 208 tenant families having 706 children which could be definitely assigned to existing families. However, there was a total of 1691 children, five of whom by reasons of mixed families, adoptions or for various reasons could not be definitely identified as to family origins. These five children were discarded in the computation of Table 84 as were the childless marriages and the households of unmarried persons since it was desired to study specifically the families that bore children. Because of these eliminations the averages in Table 84 do not correspond with those in the preceding tables. Also the method of determining the age of the families was changed from the date of marriage to the date of the first child. This was to introduce as much refinement as possible for the purposes at hand.

In Table 84, the average number of living children and the average number of children at home per family are shown for owners and tenants according to the age of the family since the birth of the first child. In general, these data show that tenant families increase in size more rapidly than owner families. However, the growth of tenant families is much more erratic than is true for owner families. Although the average size of owner families is slightly greater than for tenants the maximum size of tenant families is likely to be greater than for owners.

A second characteristic of this table is that it contains data which reveal the growth cycle of the family calculated from the date of birth of the first child as the family passes successively through its periods of growth, flourish, decline, and final decay.

Table 54. Average Number of Living Children and Average Number of Children at Home per Family for Owners and Tenants According to the Duration of Family Life Since the Birth of the First Child*

Duration of family life in 5 year periods since birth of first child	Average number of children living per family			Average number of children at home per family		
	All farmers	Owners	Tenants	All farmers	Owners	Tenants
All periods	3.6	3.8	3.4	2.3	2.1	2.7
0-4 years	1.5	1.4	1.5	1.5	1.4	1.5
5 - 9	2.5	2.3	2.5	2.5	2.3	2.5
10 - 14	2.9	2.6	3.1	2.9	2.6	3.1
15 - 19	3.5	3.4	3.6	3.5	3.4	3.6
20 - 24	3.9	3.6	4.4	3.3	3.0	3.8
25 - 29	3.8	3.5	4.3	2.1	2.1	2.2
30 - 34	4.6	4.4	5.1	2.0	1.9	2.1
35 - 39	5.0	4.7	5.4	1.5	1.4	2.0
40 - 44	5.1	5.3	4.0	1.0	.9	1.3
45 - 49	5.7	5.4	7.5	.4	.4	.5
50 - 54	3.7	4.0	2.0	.3	.2	1.0
55 - 59	4.5	4.5	---	0.0	0.0	---

*The averages contained in this table were computed on the basis of families with children excluding households of 25 bachelors and spinsters and of 71 childless marriages. Obviously, there were no first born children in households of these types. The averages, therefore, do not represent crude rates of increase for the population as a whole. At any rate, households without children can represent only partially the life cycle of the family.

3. Stages of the Family Life Cycle

The stages of the family cycle as used here were determined as follows:

Stage I. The period immediately following marriage while there were no children yet born. The average duration of this period was 2.9 years for owners and 2.7 years for tenants.

Stage II. The period of continued increase in the number of children at home. In this particular study, it happened to extend to the beginning of the fifteenth year after the birth of the first child.

Stage III. The period in which the older children were leaving home (a) about as rapidly as others were being born; (b) more rapidly than others were born. This period extends roughly from the end of the fifteenth through the thirty-fourth years of duration of family life after the birth of the first child.

> Stage IV. The period beginning when the number of children in a home had decreased to the nearest point to the same level as at the beginning of Stage II. This was at approximately 35 years after the birth of the first child. This stage continues until the final decay and complete disintegration of the parental household, which was in this study at approximately 50 years after the birth of the first child for tenants and 55 years for owners.[4]

It was shown in Table 84 that the variation in the average number of living children per family in Stage IV is much more erratic and uneven for tenants than for owners. There are two reasons for this. First, there are relatively few tenant families which reach this stage as tenants. The samples are too small to be really representative. Second, because of the smaller amount of property owned, the lower annual income, and the greater insecurity of tenant than owner families in old age, it is highly probable that tenant families are more subjected to disrupting tensions; that they are less able to withstand the psycho-social strain, and the economic stress which they experience than are owner families. This second point is only a hypothesis which seems plausible rather than a matter of positive knowledge.

Since the child-bearing period of families has been more or less assumed to cover a possible 30 years after marriage, it may be asked why the number of living children seems to increase for some time after the family has existed for more than 30 years. There are several possible reasons why this is true. First, the limits set are only approximations. In some instances children are born after the mother is past the average age at which the climacteric occurs in the human female. Second, the

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[4] For further reference on these points, see Pitirim A. Sorokin, Carle C. Zimmerman and Charles J. Galpin, A Systematic Source Book in Rural Sociology. Minneapolis: Univ. Minn. Press, 1930-1932, Vol. II, pp. 27-33; Charles P. Loomis, The Growth of the Family in Relation to Its Activities. Raleigh: N. Car. Agric. Exper. Sta. Bull. 298, June, 1934, (Also offered as a Ph.D. Thesis, Harvard University, 1933), pp. 7-15, 15-18; C. E. Lively, op. cit., pp. 16-20.

rejuvenation of families through the husband taking a second wife much younger than himself after a former marriage has been broken. A family of this kind cannot be regarded as having reached total disintegration even if its progeny may contain the issue of more than one woman. It is a common phenomenon and is a familiar thing in rural life. To discard such families is to militate against the representativeness of the sample. Third, there is the factor of survival. The families which disintegrated early could not have grown large. Longevity of human life is a selective factor which undoubtedly favors the larger families. Furthermore, if longevity be an hereditary trait, this would tend to prolong the lives of both the parents and their children, so that families of long lived parents would have improved chances of becoming larger and surviving longer than the average.[5]

In Table 85, the percentage distributions of the families with children are shown according to the length of time the family has existed since the birth of the first child. These data may be grouped by stages as follows:

	Percent of Families		
	All Families	Owners	Tenants
Stage II	45.5	31.0	63.5
Stage III	36.4	40.7	31.7
Stage IV	18.1	28.3	5.8

This shows that the tenant families are predominantly in what may be called the youthful stage, while owner families are principally middle

[5] Loomis and the other writers cited above do not attempt to carry their interpretations this far. While it is exceedingly difficult to study quantitatively families which have already been broken up and scattered the fact that survival of families is dependent upon human life is irrefragable evidence that the older a family becomes the more it represents a survival of the fittest and probably the less it resembles the cross-section of families at the beginning of the second stage of the family cycle.

aged. It is, therefore, the difference of age in families which accounts for most of the contrasts between the tenant and the owner population.

Table 85. Percentage Distribution of Families with Living Children According to the Duration of Family Life Since the Birth of the First Child, by Tenure

Duration of family life in 5 year periods since birth of first child	Percent of families with children in each 5 year period of duration since birth of first child		
	All families (466)	Owner families (258)	Tenant families (208)
All periods	100.0	100.0	100.0
0-4 years	9.2	3.9	15.9
5 - 9	10.3	5.0	16.8
10 - 14	13.1	9.3	17.8
15 - 19	12.9	12.8	13.0
20 - 24	15.2	15.5	14.9
25 - 29	10.7	12.0	9.1
30 - 34	10.5	13.2	6.7
35 - 39	6.9	10.5	2.4
40 - 44	6.1	9.3	1.9
45 - 49	3.4	5.4	1.0
50 - 54	1.5	2.3	.5
55 - 59	.2	.8	--

Not only were the bulk of owner families older than the majority of tenant families, but also the range in the ages of owner families was approximately five years greater than for tenants. Since this is true, the conclusion follows that vital processes must operate with greater speed in the tenant than in the owner families. The tenant family is usually formed earlier; the children come faster, and the processes of family disintegration begin to operate more quickly in the tenant than in the owner family.

In as much as the tenant family is younger on the whole than the owner family, it follows that larger proportions of tenant than of owner children fall within the earlier ages of life. In Table 86, where the

proof for this statement may be found, percentage distributions are given for children of owner and tenant families according to the age of the family since the birth of the first child. Summarizing the data by family stages, the following distributions appear.

	Percent of Children		
	All children	Owner children	Tenant children
Stage II	33.8	22.1	49.7
Stage III	40.9	40.8	41.1
Stage IV	25.3	37.1	9.2

From this classification it is apparent that the greatest contrast between tenant and owner families is in the extremes. In Stage III the proportions of children are practically equal for the two tenure groups, but in Stage II the proportion of tenant children is a little over twice as great as that of owner children, while in Stage IV the proportion of owner children is slightly in excess of four times as great as that of tenant children. This indicates again that it is in the middle of the family generative cycle that the transfer of tenants to ownership is most rapid. It is necessary to keep in mind that this process of social "osmosis" is continuous and that the farm family cycle is in large measures a function of changes in tenure status, and probably of the exodus of rural population toward the cities.

Necessarily, if as has been found, the life cycle of the tenant family is somewhat shorter than that of the owner family, and if those farmers who remain all their lives as tenants have larger families than those who become owners, it would follow that the growth curves of tenant and owner families could not be identical. Even at the very beginning of Stage II, the tenant family has a tendency to start growing much more

rapidly than the owner family. This is kept up throughout the life cycle of the family, which enables the tenant family to reach its maximum limit ahead of the owner family. The social inference of this is that the comparative insecurity of the tenant family in old age may force it to hurry on toward its completion before its economic productivity begins to decline to such a point that the family may be forced to live on a bare subsistence level while its children are yet young and unable to take care of themselves.

Table 86. Percentage Distribution of Living Children According to the Duration of Family Life Since the Birth of the First Child, by Tenure

Duration of family life in 5 year periods since birth of first child	Percent of living children in period of family life		
	Children of all families (1686)	Children of owners (930)	Children of tenants (706)
All periods	100.0	100.0	100.0
0-4 years	5.9	1.4	7.2
5 - 9	7.1	3.1	12.6
10 - 14	10.4	6.3	16.0
15 - 19	12.4	11.3	13.9
20 - 24	16.6	14.5	19.4
25 - 29	11.0	11.0	11.5
30 - 34	13.3	15.3	10.2
35 - 39	9.5	13.1	4.5
40 - 44	8.4	12.9	2.3
45 - 49	5.4	7.8	2.1
50 - 54	1.5	2.4	.3
55 - 59	.5	.9	—

Emigration of children from the parental roof is the principal factor in the deterioration of the family during the life time of the parents. Although death is an ever present danger, only 3.7 percent of the total number of children born to the families in this study, not counting stillbirths, had died before reaching maturity. On the other

hand, children begin to leave home at around fifteen years of age, and their leaving increases progressively with the age of the family until the final point of family dissolution has been reached. This may be observed from a study of Table 87.

Table 87. Percent of all Living Children who Were Away From Home For Owner and Tenant Families of Different Age Periods

Duration of family life in 5 year periods since birth of first child	Percent of children away from home*		
	All children (1686)	Owner children (980)	Tenant children (706)
All periods	35.6	45.7	21.5
0-4 years	0.0	0.0	0.0
5 - 9	0.0	0.0	0.0
10 - 14	0.0	0.0	0.0
15 - 19	1.0	0.0	2.0
20 - 24	15.4	16.2	14.6
25 - 29	44.3	39.3	48.1
30 - 34	56.7	56.0	59.7
35 - 39	70.6	71.1	68.8
40 - 44	81.7	83.8	68.8
45 - 49	92.3	92.1	93.3
50 - 54	92.3	95.8	50.0
55 - 59	100.0	100.0	---

*Percentages in this table cannot be cumulated because the base is changed with each advance in the age of the family.

In Table 87, it may be observed that the tenant family begins to disintegrate earlier than the owner family. There were no owner children who left home prior to age 19, while 2.0 percent of the tenant children aged 15-19 had left home. However, the total numbers having left home by the time the oldest child was 24 years of age were approximately equal in proportions for owner and tenant families. But immediately after the oldest child reached the age of 24 years, there was a precipitant increase in the proportions of tenant children away from home as compared with owner children during the last ten years of Stage III. A supplementary classification of the data shows the following

results:

	Percent of children away from home		
	All families	Owner families	Tenant families
Stage II	0.0	0.0	0.0
Stage III	28.3	29.4	26.8
Stage IV	80.8	82.1	73.8

These figures indicate that for each stage as a whole there were relatively more owner than tenant children who left home, but it is to be remembered that the owner children were somewhat older than the tenant children when they left. This does not break down the principle that the tenant family cycle both in its increase and its decline, tends to proceed more rapidly than the owner family.

There is, however, a distinctive difference between owner and tenant families which may be observed by a careful scrutiny of the data in Table 87.[6] The decline of tenant families is much more erratic than that of owner families, just as it was observed in Table 84 that the growth of tenant families was more irregular than that of owner families. While it has been shown in Part V of this study that the owner household was capable of absorbing more persons from the outside tenant families, it appears at this point that the immediate children of the owner family, because those who have left home remained somewhat longer in owner than in tenant families, and because of the greater economic resources of owner than of tenant families, were more able to take care of themselves

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[6]Loomis, (op. cit., p. 13) says that "there is insufficient difference between owner and tenant families to make it apparent that there should be special treatment of these two groups"; admittedly the differences may not be so great as to be astounding, particularly in the area of his survey, but it is the summation of the many small differences between the owner and tenant populations which account for the perceptible differences in toto between these two socio-economic groups of the farm population.

than the children of tenant families.[7]

4. Relation of Social and Economic Factors to the Fertility of the Farm Family.

The fertility of the farm family, that is, the natural increase of the population through the agency of the family, is a phenomenon regarding which little is known except that which may be expressed in terms of numbers of children born per family of different tenure and economic status. There are numerous studies which have compared the fertility of the farm population with that of other social groups. However, it is quite a different matter to explain the vital processes of the farm population in terms of its own environment. Perhaps it may be agreed that heredity and environment are functional variants of all human behavior. But this is only an evasion of the task at hand. Assuming that heredity, or nature, is a primary factor in human reproduction, what are the secondary or conditioning factors in its environment?

The first problem that arises in the study of population increase is the variation of ages of families, especially of mothers. Some means of standardization for age must be found, otherwise there can be no reliability in a given set of figures. The process of standardization adopted must be suitable to the sample at hand, and it is unlikely that any one procedure will prove universally suited to all types of studies of fertility. In this study the index of fertility has been expressed as a ratio between the number of births per woman

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[7] An inference that may be drawn from these observations is that the owner family has many of the characteristics of the particularistic family while the tenant family resembles the unstable family described by the LePlay School. For a brief resumé of the characteristics of these two types of families see Pitirim Sorokin's Contemporary Sociological Theories. New York: Harper and Bros., 1928, pp. 63-98, and the many citations he gives. Also Carle C. Zimmerman and Merle E. Frampton, Family and Society. New York: D. Van Nostrand Co., 1935, Ch. VI.

and the number of years of "exposure to risk," or of child-bearing life between the age at marriage and 45 years multiplied by the constant 100. In other words, this may be written as a simple formula:

$$I.F. = \frac{B \times 100}{t}$$

The result obtained by the substitution of the proper figures for the symbols is weighted for time in the case of every married woman regardless of how many or how few children she has borne during her period of potential fertility.[8]

Admittedly the index of fertility employed is not perfect.[9] For

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[8]Frank W. Notestein and Xarifa Sallume, "The Fertility of Specific Occupational Groups in an Urban Population," Quarterly Bulletin, Milbank Memorial Fund, X, 2, April, 1932, pp. 120-130, employ an index of fertility based on the total number of children born to women of specific age groups under the age of 50, per 1000 years of "exposure to risk of childbirth." These authors admit that such an index is useful only when the age distributions of women of different occupational groups are closely similar. How closely similar they must be is not stated. Also, they state that this procedure reduces the index for early marrying groups too much, because it implicitly assumes that the fertility of a given year of married life is independent of that of preceding years, which is not strictly the case. Perhaps the same criticism justly may be applied to the index used in the present study. Walter F. Willcox, "Changes Since 1900 in the Fertility of Native White Wives," Quarterly Bulletin, Milbank Memorial Fund, X, 3, July, 1932, pp. 191-202, assumes an index of 100, using the fertility of a standard population as a base. From this the fertility indexes of other groups is computed. Such a procedure assumes a similar age distribution of the women in each subclass to that of those in the basal group. Obviously this would not follow in the farm population, for it has been shown that the age curves for tenants and owners are markedly different. Nor would the index used by Willcox be satisfactory for showing the fertility of individual families, but only in a sample sufficiently large that the smallest subclasses would contain a comparatively large number of cases.

[9]Raymond Pearl, "Contraception and Fertility," Human Biology, Vol. 4, No. 3, p. 400, has given a scale by which he attempts to correct for the number of pregnancies, spontaneous abortions, therapeutic abortions, and other abortions experienced in order to ascertain a net figure for "Person-Years Exposure to Risk of Pregnancy." These corrections are impractical for this study because of the impossibility of securing much of the data required in the absence of hospital records and conditions in view of their extremely intimate and personal nature. Furthermore,

example, it does not allow for the possibility of a natural decline in fertility with advancing age. Also, it does not attempt to correct for cases in which the husband may be either comparatively infertile or actually sterile. It is an index of fertility of marriages rather than of married women. However, it would require a more intimate knowledge of the population than survey techniques will admit in order to enable an investigator to make corrections for all these limitations. In view of the recognized shortcomings of the procedure employed, it is necessary to take advisedly the results obtained when the index of fertility is correlated with other variables.

Table 88 contains a summary of the results obtained from the correlation of different social and economic variables with the Index of Fertility for all families, and for tenants and owners separately. These are simple correlations of the zero order. The independent variables need have been defined in earlier parts of the study, for which reason further elaboration upon them is unnecessary at this point.

There is one outstanding characteristic of the results shown in Table 88. There is not a single coefficient shown which indicates the existence of a statistically significant correlation between the index of fertility and any other variable employed. The coefficients are too small in the absolute and the standard errors are too large relatively

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Pearl himself has failed to make any correction for the lactation period during which it is known in general that the risk of impregnation is materially lessened. Another reason why Pearl's method is not suited to this study is that he studied all pregnancies whether resulting in live births or not, while the present concern is for only children born alive. When the limitations of Pearl's method of computing his "Person-Years Exposure" index are taken into account from the viewpoint of a field survey, a modification of the more crude methods of Notestein, Sallume and Willcox is believed by the writer to be much more satisfactory.

for any statistical significance to be attached to the functional relationships existing between these phenomena and the index of fertility. This is not surprising when it is recalled that the farm population lives in close conjunction with the natural environment. Many writers even believe that the farmer is actually indifferent in his psychic responses toward the artificialities of a complex cultural pattern. This can be scarcely supported on the basis of objective data, although it cannot be disproved irrefragably.

Table 88. Simple Correlations of Selected Variables with the Index of Fertility of the Farm Population, by Tenure

Variable correlated with Index of Fertility	Coefficient of correlation		
	All farmers	Owners	Tenants
Size of farm operated	+.033 ± .04	+.048 ± .06	+.081 ± .06
Index of mobility	+.139 ± .04	+.127 ± .06	+.113 ± .06
Gross cash income	+.056 ± .04	+.038 ± .06	+.050 ± .06
Size of investment operated	-.112 ± .04	-.051 ± .06	-.120 ± .06
Grade finished by operator	-.074 ± .04	-.163 ± .05	-.027 ± .06
Grade finished by operator's wife	-.079 ± .04	-.119 ± .06	-.073 ± .06
Net wealth accumulated	-.096 ± .04	-.030 ± .06	-.099 ± .06
Age of wife at marriage	-.116 ± .04	-.045 ± .06	-.170 ± .06

Perhaps there has been no social characteristic of the population which has been as often associated with fertility as education, especially during recent years. Since 1924, The Journal of Heredity, a publication originally devoted solely to animal and plant breeding, has carried a large number of papers dealing either directly or indirectly with the problem of the relation of education to the size of

families.[10] While the prevailing evidences given in these studies show an inverse relation between education and the fertility of families, none of them succeeds in discovering a coefficient of correlation large enough to be of unquestionable significance.

In a study of the correlation of education and fertility among 609 rural families in Connecticut, Whetten obtained a coefficient in which $r = -.30 \pm .025$.[11] This was the nearest to a significant coefficient found by any of the several authors mentioned. Butt and Nelson, working in Utah, found a coefficient of $r = -.092 \pm .019$,[12] and Banker, judging by the variations between the mean number of children of parents with common school, high school, and college levels of education, came to the conclusion that the significant factor in determining the fertility of families was the age at marriage, which was affected by the amount of

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[10] Cf. S. J. Holmes, "The Size of College Families," Journal of Heredity, Vol. XV, No. 10, 1924, pp. 407-415; Howard J. Banker, op. cit.; J. B. Griffing, op. cit.; C. V. Green and H. R. Hunt, "Birth Rates in Families of Michigan State College," Journal of Heredity, Vol. XVI, No. 10, 1925, pp. 361-365; S. J. Holmes, "The Fertility of Stocks Which Supply College Students," Journal of Heredity, Vol. XVII, No. 7, 1926, pp. 235-239; H. I. Butt and Lowry Nelson, op. cit.; F. A. Woods, "Perpetuation of Old Families," Journal of Heredity, Vol. XIX, No. 9, 1928, pp. 387-396; Nathan L. Whetten, op. cit.; Neil A. Dayton, "Intelligence and Size of Family," Journal of Heredity, Vol. XX, No. 8, 1929, pp. 365-374; Weld A. Rollins, "Fertility of College Graduates, I," Journal of Heredity, Vol. XX, No. 9, 1929, pp. 425-427; Weld A. Rollins, "Fertility of College Graduates, II," Journal of Heredity, Vol. XX, No. 11, 1929, pp. 535-539; Harley N. Gould and Beatrice Davis, "Size of Family," Journal of Heredity, Vol. XXI, No. 12, 1930, pp. 489-495; Roland M. Harper, "Matrimonial Prospects of Southern College Women," Journal of Heredity, Vol. XXI, No. 1, 1930; Aline Maxwell and R. R. Huestis, "Student Test Score Rank and Family Size," Journal of Heredity, Vol. XXI, No. 6, 1930, pp. 211-215; Louis D. Hartson, "Marriage Statistics for Oberlin Alumnae," Journal of Heredity, Vol. XIX, No. 5, 1928, pp. 225-228; S. J. Holmes, "The College Melting Pot," Journal of Heredity, Vol. XVII, No. 8, 1926, pp. 287-292. With very few exceptions these papers have found a negative correlation between education and the size of families, although the correlations are not always large enough to be determinate.

[11] Nathan L. Whetten, loc. cit.

[12] H. I. Butt and Lowry Nelson, loc. cit.

schooling received.[15] The results procured by these investigators compare favorably with those given in Table 88 which show that the correlation of the education of the father and the index of fertility gave an $r = -.074 \pm .04$ for all families, $-.163 \pm .05$ for owners, and $-.027 \pm .06$ for tenants. The education of the mother bears a more consistent relation with the index of fertility than that of the father, although not significantly closer on the whole. The coefficient for the mother's education and the index of fertility give $r = -.079 \pm .04$, for all families; $-.119 \pm .05$ for owners, and $-.073 \pm .06$ for tenants. The education of the farm population cannot be said materially to interfere with marriage because the overwhelming majority of farm youth of both sexes do not pursue their education far enough to allow it to interfere with marriage. About half of them stop school at the eighth grade, as has been shown already in this study. Approximately one-fourth of them do not reach the eighth grade. Certainly for these, Banker's contention that education indirectly influences fertility by raising the age at marriage is inapplicable.

The age of the wife at marriage is commonly regarded as being of far greater moment in determining the size of the family she will rear than that of the husband. Yet, when the age of the wife at marriage was correlated with the index of fertility, the result gave $r = -.116 \pm .04$ for all women, $-.045 \pm .06$ for owner women, and $-.170 \pm .06$ for tenants. This indicates that by and large there was not enough variation in the ages at which these farm women married to make an appreciable difference in the numbers of children borne by them. Obviously, other things being equal, a woman who married for the first time at the age of 20 would have twice as great a child-bearing risk as one whose first marriage occurred

[15] Howard J. Banker, loc. cit.

at the age of 35. However, differences as wide as this are rare enough among the farm population studied that their influence upon the fertility of marriages studied in groups is negligible.

If the several factors given in Table 88 have been adequately defined, if the data have been carefully computed, and if the information given by the persons interviewed was substantially accurate, one of two possible conclusions is to be drawn. Either simple statistical technique does not afford a suitable tool for the discovery of the real basis of variations in the size of families, or the independent variables selected are of minor significance in relation to family fertility in the farm population. In as much as many other studies have produced results similar to those found here, it is justifiable to maintain that the natural increase of the farm population as a whole appears to be comparatively independent of such differences in socio-economic status as may exist from family to family. From this, one is led to believe that the principal causes of variation in the size of families, barring conscious restriction of births, are the absolute length of effective child-bearing life and the innate biological fertility of different family stocks. Whether or not birth control has been practiced by the families studied is not and can never be known. It is assumed, therefore, that the influence of that practice is either constant or similarly distributed throughout the sample.

5. Sex Ratios of Living Children.

The predominance of males over females is one of the noticeable characteristics of an agricultural population. There are in general three factors which account for this. First, there is the genetic excess of males over females at birth. In the United States during the period 1915-

1933, the sex ratio at birth was 106.1 males per 100 females.[14] Second, the migration of settlers to new agricultural regions, and perhaps the farmward migration generally, is composed principally of males.[15] Third, the cityward migration of farm population is disproportionately composed of females.[16] Through the operation of these three principles the excessive masculinity of the farm population increases greatly in early adult and middle life. In old age, that is after 60 or 65, the masculinity of the farm population is further accentuated by the migration of widows to villages and towns. In fact, it appears that agriculture is selective of males in practically all ages, and particularly throughout the greater part of adult life.

Table 89 shows the sex distribution of the children of the families studied in the survey. From these data it was found that there were 114.9 males to 100 females, while according to the federal census of 1930 there were 117.1 males to 100 females in the total population of the counties studied. This would seem to indicate that, taking only the younger farm population into account, there is a gradual tendency for the sex disparity to be reduced as the area becomes more mature socially and eco-

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[14] In 1920, there were 103.6 males to 100 females, and in 1930, 102.9 males to 100 females in the Oklahoma farm population under 5 years of age. However, there were 112.3 males to 100 females in the total farm population of the State in 1930. See U. S. Census, 1930, Vol. II, Table 31, p. 711. See also T. Lynn Smith, The Population of Louisiana: Its Composition and Changes. University, La.: Louisiana Agric. Exper. Sta. Bull. No. 293, 1937, pp. 46-47.

[15] See Otis Durant Duncan, Population Trends in Oklahoma. Stillwater: Okla. Agric. Exper. Sta. Bull. 224, March, 1935, p. 17, for Oklahoma data confirming this statement.

[16] See E. J. Ravenstein, "The Laws of Migration," Journal of the Royal Statistical Society, Vol. 48, 1885, pp. 167 ff.; Carle C. Zimmerman, "The Migration to Towns and Cities," American Journal of Sociology, Vol. XXXII, No. 5, 1926; Pitirim Sorokin and Carle C. Zimmerman, Principles of Rural-Urban Sociology. New York: Henry Holt & Co., 1929, p. 549; and Sorokin, Zimmerman and Galpin, op. cit., Vol. III, pp. 481-485, for summary of data on distribution of rural-urban migration taken from numerous sources.

nomically.[17] Just what changes in sex distribution of the farm population have followed the depression are not authoritatively known. Yet it is believed that the ratios shown in Table 89 are probably representative.

Table 89. Number of Male Children Per 100 Females in Different Tenure Classes According to the Size of Investments Operated

Size of investment	Number of male children per 100 families in different investment groups		
	All farmers	Owners	Tenants
All groups	114.9	114.2	115.8
All below $5000	115.3	122.0	111.7
All $5000 and over	116.2	113.1	165.7
Up to $2499	107.2	104.0	107.6
$2500 to $4999	138.9	135.3	142.1
$5000 to $7499	142.9	104.8	---
$7500 to $9999	111.0	111.0	185.7
$10,000 and over	110.2	109.0	---

One of the principal purposes of Table 89 is to show the sex distribution of the children families in different economic and tenure levels. It is true that minute classifications do not reveal distinctive contrasts, but there are significant variations as between extremes. It will be observed that the excess of males over females was 1.6 per 100 females greater for tenants than for owners. Also for tenants with operating investments of less than $5000 there were 111.7 male children to 100 females compared with a ratio of 185.7 males to 100 females for those with investments of $5000 or more. Among owner families, there

[17] The depression has been accompanied by a tremendous migration back to the farms in Oklahoma. However, the density of the farm population in the area of this study has probably been reduced, because the heaviest migration has been away from both the cities and the better farming areas toward the poorer farming regions. This is an observation which may be deduced from changes in the number of farms in Oklahoma counties as given by the 1935 Census of Agriculture.

were 122.0 males to 100 females in the poorer group and 113.1 males to 100 females in the class having investments of $5000 or over. Obviously there is no general rule that can be applied to owner and tenant farmers alike in this area.[18]

Whether or not there is an actual relation between the sex distribution of children and the socio-economic status of the families to which they belong, the writer is not prepared to say definitely. However, from a continued study of this point dating back several years, the preponderance of the evidences gleaned thus far, although slight, seems to justify a belief that the question offers a fruitful field of study.

6. Sociological Significance of the Farm Family Life Cycle.

By a process of elimination, the data studied seem to lead definitely toward the conclusion that the farm family life cycle is essentially a biological phenomenon. Socio-economic factors, so far as could be discovered, were of feeble influence, taken singly, upon the configuration of the family growth curve. This conclusion has been reached because throughout the study cultural factors appeared incapable of shaking the family loose to any appreciable extent from its natural moorings in age and sex of the population. This does not mean, however, that the family life cycle has no reference to the socio-economic status of the farm family.

It was seen that the tenant family is formed earlier than the owner family, that on an average its generation of offspring begins a little

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[18] In another study (O. D. Duncan and J. T. Sanders, op. cit.) it was found that the excess masculinity declined in advancing from the lower to the higher economic and tenure levels. This was a study of 1360 cotton farmers in Southern Oklahoma.

more quickly than in the owner family, and that the final dissolution of the tenant family occurs about five years sooner than in the owner family. On the other hand, the crude fertility of owner families is noticeably greater than that of tenant families, but in the processes of social capillarity there is evidently a tendency for the smaller tenant families to go through a transition to ownership more easily than those which have more numerous offspring. This same type of selection seems to take place through economic channels when measured by wealth acquired. For this reason, curves describing the life cycles of families in different socio-economic strata of the farm population are not similar and apparently cannot be expected to conform to the same type of configuration.

The study of these points, as have other studies in the Southwest, leads to the conclusion that the much repeated popular belief to the effect that per se farm tenancy means over-breeding on the part of that stratum of the farm population described as tenants is insupportable. This theory represents an accumulation of unfounded supposition for generations. It is conceded that there is a residue of about one-fifth of the farm population who have been through a rigid socio-economic selective process and have remained at or near the bottom of the pyramid. These strata have large families, but age at marriage and the initial start received where the family was formed appear to have been the really important limiting factors. Farm tenancy is an adaptation which they make, a refuge under which they seek shelter in preference to a more insecure and uncertain existence as unskilled wage earners either on farms or in cities. In the southwestern part of the United States, and in the area of this study specifically, the evidences do not prove that

farm tenancy has the demographic significance popularly ascribed to it when the family cycle is studied carefully and minutely. On the other hand, demographic factors seem to be perceptibly effective as limits to socio-economic circulation of the farm population. The generative capacity of the poorer owner families is as great and even greater than that of tenant families in similar economic circumstances.

PART IV. INFLUENCE OF THE FARM FAMILY UPON ITS MEMBERS

CHAPTER IX

AGES OF CHILDREN OF FARM OPERATORS AT MARRIAGE AND THEIR SOCIOLOGICAL SIGNIFICANCE

1. Preliminary Statement.

The marriage of children is an important factor in the family cycle. Marriage accounts for the migration of a large proportion of farm children from the parental home. It is also the process by which the genetic continuation and expansion of the parental family is assured. Further than that, marriage is one of the most important channels of social circulation and of societal selection. Thus it is an agent of both biological and cultural survival. To a great extent, it is a mechanism of testing of individuals for definite social positions. In other words, the family through marriage is an instrument of social distribution of the members of a society, or a social group, into various strata and substrata of the socio-economic order.[1]

In this portion of the study an attempt is made to see how the conditions of the parental home are reflected in the marital behavior of the children as they in turn set up families of their own. In doing this, it is mandatory to keep in mind that the cultural milieu of the farm family in Oklahoma during the third and fourth decades of this century is vastly different from that which prevailed when the parents of the generation now marrying settled on their claims between 1889 and 1907. During a brief period of less than a generation it was necessary to build a civilization upon what was virtually a barren uninhabited region. The propositi of

[1] This thesis is developed at much pains by Pitirim Sorokin in Social Mobility. New York: Harper and Bros., 1927, Chapters VIII-IX, XV.

this study had, in a large part, spent their youth in the territorial period and the early days of statehood when schools, churches, roads, commercial services, and educational and cultural agencies of all kinds were grossly inadequate in proportion to the needs and in comparison with the facilities which have existed in the State since the World War. It is probable that in no area of the United States has the factor of cultural change been more rapid in its operation and more far-reaching in its effects than in Oklahoma for the population groups now under observation.

If then, it is found that contrasts between the behavior of parents and children appear distorted beyond reasonable expectations the explanation is to be sought in the enormity of the social and cultural changes which have occurred in a comparatively short time. Furthermore the population of Oklahoma is just now reaching what may be called an adult phase. It is scarcely mature as yet. The growth of the population has been mostly from migration until recently, but is now beginning to be more dependent upon natural increase. In the past, population changes have been turbulent and erratic. At present, the rate of growth is subsiding, and a process of maturation seems to be under way.[2] However, the rapidity of change has no doubt stamped its effects indelibly upon both generations of the population forming the data of this study.

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[2]Cf. Otis Durant Duncan, Population Trends in Oklahoma. Stillwater: Okla. Agric. Exper. Sta. Bull., 224, March, 1935, especially the statistics given in the Appendix. Also Jennings J. Rhyne, Social and Community Problems in Oklahoma. Guthrie: Cooperative Pub. Co., 1929, Chs. II-III; C. Warren Thornthwaite, Internal Migrations in the United States. Philadelphia: Univ. Pennsylvania Press, 1934, Part V; Charles J. Galpin and T. B. Manny, Inter-State Migration of the Native White Population as Indicated by Differences Between State of Birth and State of Residence. Washington: U. S. Bur. Agric. Econ. (Planagraphed), 1934, pp. 82-83.

B. Age Distribution of Children at Marriage.

The farm families included in this study had 531 children who were married. Of these 236, or 44.5 percent, were males and 295, or 55.5 percent, were females. There were 537 married farm operators in the sample being studied. This means that the original families taken as a whole have a very favorable chance of continuing until a sufficient number of their children have established homes of their own to insure the perpetuation of the population before disintegration of the parental families proceeds to an advanced stage. Moreover, the children of the families studied often begin marrying before the period of biological fertility of the parent family has expired. As a result the potential fertility of the farm family is supplemented to some extent by the concurrent generation of both parents and their older children. It is, without doubt, partially due to this fact that rates of reproduction in the farm population are greater than is necessary in order for it to maintain itself.[3]

Generally there is a lag of about three years in the ages at which marriages of males occur as compared with females. This is to be expected for at least two reasons. In the first place, it is a matter of common knowledge that biological or chronological maturation in females precedes that of males by from two to three years. In the second place, there is usually an excess of males over females in the earlier marriageable ages. This second point may be reflected by, first, the greater number of females

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[3]See O. E. Baker, The Outlook for Rural Youth. Washington: U. S. Dept. Agric. Extension Service Circular, 203, August, 1934 (Mimeographed), pp. 18-19. Dr. Baker, usually pessimistic as to the outlook for population growth in this country, shows that the rate of natural increase of the farm population is at least one-third higher than is necessary to maintain a stationary level. He states that the rural surplus balances approximately the urban deficit.

than of males marrying up to about the age of 20, and, second, the larger proportion of males than of females marrying in all ages above 20 years. In Table 90, the age distributions at the time of marriage of the children of the farm operators of this study are shown.

Table 90. Percentage Distribution of Farmers' Married Children According to Age at Marriage, by Sex

Age of child at marriage	Percent of children marrying at given age	
	Males (236)	Females (295)
Total	100.0	100.0
14	---	.3
15	---	1.7
16	---	5.1
17	1.3	9.1
18	2.9	21.3
19	8.0	10.4
20	10.9	19.0
21	18.6	9.8
22	13.9	8.8
23	13.4	6.1
24	8.8	2.7
25	6.7	1.3
26	2.9	1.0
27	2.1	.7
28	3.8	.3
29	1.3	.3
30 and over	5.4	2.1

Characteristic of the lower extremes, the initial spread of three years between the ages of female and male children at marriage remains almost constant throughout the ages of greatest frequency in marriage. It will be noted that in Table 90, the marriages do not represent the coordinate ages of husbands and wives, but simply of collateral marriages of males and females originating from the same groups of families. For this reason, there is greater regularity in all phases of the curves showing ages at marriage than is true for those of husbands and wives. In Table 90, the separate ages at marriage are not shown by single ages beyond 30 years because of the smallness of the number of cases, especially

females, and their great irregularity. After that age had been reached, there were numerous gaps in the data. After all, the procedure followed accounted for 94.6 percent of the males and 97.6 percent of the females by single years.

From the viewpoint of the future growth of the farm population, the age of females at marriage is highly significant. For purposes of this study, the period of potential fertility for women has been assumed to extend from ages 15 to 44, inclusive, while the effective period of fertility, or of "exposure," extends from the age at marriage to 44 years, inclusive. On this basis, only 2.1 percent of the females who married had a prospective period of fertility of 15 years or less. But assuming an average of one childbirth in three years, and allowing for childless marriages and deaths, it is not improbable that this group of women who married when 30 years of age or older will bear a sufficient number of children to keep their own families at least within stationary limits. On the other hand, 2.3 percent of all females married at the age of 15 or below, which means that those marrying too late to bear a large number of children are more than offset by the number who married early enough to have advantage of the longest possible child-bearing periods. From these facts, it is easy to see how the potential fertility of the farm population easily approaches the maximum.[4] These data also show that 95.6 percent of the female children who have married did so at the age of 25 or below, thus assuring themselves of at least 20 years of child-bearing life. Again allowing three years between the births of children, 95.6

[4]Cf. James E. S. Bossard, "The Age Factor in Marriage," American Journal of Sociology, Vol. XXXVIII, No. 4, 1933, which shows that in a strictly urban population, Philadelphia, the bulk of those marrying both males and females are appreciably older than the sample being studied here.

percent has a minimum potential fertility of approximately seven children per marriage which is far greater than any conceivable necessity would require in order to maintain an ample farm population.

3. Certain Factors Relating to the Ages of Children at Marriage.

In general, the most significant finding of this study thus far has been that within the population studied, socio-economic factors are of comparatively little consequence in relation to variations in bio-social processes. Practically all correlations of this nature, which have been computed, are so small as to be governed almost entirely by chance. The importance of this inheres in the fact that actual data and purposeful investigation do not support--frequently they even deny--many popular allegations, superstitions, and purely imaginary notions regarding nearly all vital processes within the farm population. Of course, this statement is limited factually to the confines of the study itself, but the apparently supportable inferences of the study probably extend over a much wider area than that actually surveyed.

In Table 91 the average ages of male and female children at marriage are shown according to the net worth of the parents. Net worth, in this particular instance, is of great import because it is in many ways closely associated with tenure status, size of investment, and size of farm. It is used here as an independent variable in preference to others mentioned because it is less subject to yearly catastrophes for the bulk of the farm population, and also because it is in many ways indicative of the lifelong habits of families.

The data in Table 91 show that there is no definite tendency in respect to the influence of economic status upon the ages of male chil-

dren of farm operators at the time of marriage. While it is true that there is a persistent rise in the average ages of female children at marriage as the net wealth of the family increased, the average ages of males at marriage seemed to follow no particular known tendency. The sons of the wealthiest families married as early as those of the poorest, while those in the intermediate groupings married as early as those in the poorest and as late as those in the wealthier classes. For female children, the average age at marriage rose somewhat gradually from 18.5 years to 20.9 years while passing from the poorest to the wealthiest strata of the population sample. However, as may be observed from a study of the data in Table 91, the mean ages of the daughters at marriage are much more erratic as wealth increases than is true of those of the poorer families. This indicates that the averages are far less reliable as indexes of marital behavior in the wealthier than in the poorer groups so far as daughters are concerned.

Table 91. Average Ages of Farmers' Children at Marriage According to Net Wealth of Families

Net wealth groups	Average ages of children at marriage	
	Males	Females
All groups	22.7 ± 3.2	20.0 ± 3.3
Less than 0	22.3	18.5
$0–$2499	23.0	19.2
$2500–$4999	23.7	19.6
$5000–$7499	22.2	19.6
$7500–$9999	22.4	20.2
$10,000 and over	22.2	20.9

Why, in one and the same population group, identical procedure reveals the existence of no principle describing the marital behavior of males, while for collateral marriages of females there is a distinct tendency, is not at once apparent. The explanation of this must be

derived from the broader inferences of the study. In the first place there is a relative scarcity of marriageable females in comparison with males at the earlier years of adult life. In the second place, economic status and marital condition are not so closely interdependent for males as for females in agricultural society. Male children find it easier to forego marriage and remain on the farm than is true for females as will be observed by the preponderance of unmarried male children of adult ages who remain attached to the parental home. In the third place, there is probably a greater effort on the part of families to marry their daughters according to the economic circumstances of the family than is true for sons. For example, the education of the daughter is more dependent upon the socio-economic resources of the family than that of the son, because boys have better opportunities than girls for "working their ways through school." Certainly the prolongation of education through the college levels tend toward a retardation of marriages. Finally, lacking the opportunity of going to college or of finding city employment, the farm girl usually has her choice between one of two alternatives, either to remain at home in utter dependence or to marry. There seems to be no doubt that the economic condition of her parents is a limiting factor of great importance in determining which of the two courses offers the more attractive, or the least unattractive, advantages to the daughter of the farm family.

The immediately foregoing statements find at least partial support in Table 92. In this table, the average ages of children at marriage have been shown when the independent factor is the average amount of schooling received by both parents. This variable was found by adding together the grade in school which was completed by each

parent and dividing the sum by two. It was thought that in this way an approximation to the general cultural standards of the family could be found. These averages were then arranged in class intervals approximating various levels of education for the parents, primary, intermediate, high school, and at least partial college education.

Table 92. Average Ages of Married Children of Farmers at Marriage According to the Average Grade Finished in School by Both Parents

Average grade finished in school by fathers and mothers	Average age at marriage	
	Sons	Daughters
All grades	22.7 ± 3.2	20.0 ± 3.3
0 - 4	21.6	18.7
5 - 8	22.8	19.9
9 - 12	23.7	21.7
13 and over	21.0	--

Table 92 has some traits which are distinctive. It shows that the ages of male children at marriage bear little or no relation to the education of the parents. Furthermore, it shows that there is a progressive rise in the ages of female children at marriage as the education of the parents increased. However, in none of the families which had married daughters did the average education of the parents exceed the high school level. Perhaps this is only an incident. Undoubtedly, it is a matter of chance depending upon the sex ratios of children. Were it not true that male children predominate in number over females, it seems that there might have been daughters as well as sons of marriageable age in families in which the parents had received at least partial college educations. In all probability, there are daughters yet to be married in these same families. All this can mean is that operators with college education are relatively so few in

number that the age and sex distributions of their children are not typical of the population sample as a whole. The truly significant point shown in the table is that the cultural advancement of the family, speaking broadly, reflects upon the marital behavior of female children more than that of males.

Extensive study by the writer on the problem of influence of the education received by an individual upon the age at which he or she may marry has failed thus far to yield any reliable results.[5] At least, this appears to hold true of the farm population, which is the immediate object of interest in the study at hand. In Table 93 the average ages of male children at marriage have been computed on the basis of the grades finished by these same children, in order to determine if with the higher standards of rural education, which have prevailed during recent decades, there is a perceptible tendency for the average age of the farm population at marriage to rise.

Table 93. Average Ages at Marriage of Sons of Operators According to Grade Finished at School

Grade finished in school by married sons of operators	Mean ages at which sons were married		
	Sons of all farmers	Sons of owners	Sons of tenants
All grades	22.7 ± 3.2	22.9 ± 3.4	22.2 ± 2.6
0 - 4	25.0	27.0	23.0
5 - 8	22.7	22.7	22.5
9 - 12	22.6	22.8	21.0
13 and over	22.6	23.0	22.6

[5] Otis Durant Duncan, "A Study in Assortative Mating Among Farm Population Groups." (An unpublished study read before the Southwestern Social Science Association, Dallas, Texas, March 30, 1934). This was an investigation based on four different samples ranging in size from 280 to 1211 marriages each. In all cases the correlation coefficients found between the grade finished and the age at marriage for persons of the same sex were so small as to be of doubtful meaning.

An examination of the data in Table 93 reveals that so far as the male children are concerned advancement in education is not accompanied by a definite tendency toward later marriages. If the lowest educational group be disregarded, which is justifiable because it is the exception rather than the rule that schooling stops with the fourth grade or lower, it will be seen that for the sons of owner farmers, there is a feeble tendency for the age at marriage to be increased along with the educational advancement. However, for tenant farmers' sons, this does not appear true, and therefore the tendency is broken down for the entire group. Only in a very limited sense can it be said that the sons of farmers postpone marriage in order to pursue an education. Rather, it seems that boys who want to remain on the farm abandon school and start learning how to farm by apprenticeship methods. They use the wealth which would be needed to go to school in cumulating a start in farm operations. This done, marriage is the next important consideration.

In Table 94, the average ages of female children at marriage are shown as they were computed in relation to the amount of schooling received. These data should be subjected to the same limitations applicable in Table 93. That is, it is necessary to ignore the class having only a fourth grade education or less, and to make allowances for the erratic nature of the data on the daughters of tenant farmers.

For the daughters of owner farmers, it is apparent, excepting the extreme lower education group, that increased schooling has been accompanied with a perceptible rise in the age of daughters at marriage. While this does not follow uniformly for daughters of tenant farmers, the weight of tenant daughters in the total is so small that for all married females together the principle that age at marriage increases

with educational advancement is not broken down. It is obvious by comparing Tables 93 and 94 that the marital behavior of females can be predicted with much greater accuracy than that of males. However, it appears that in families which are extremely low in either cultural or economic status, the widest and most irregular variations occur for both males and females.

Table 94. Average Ages at Marriage of Daughters of Operators According to Grade Finished at School

Grade finished in school by married daughters of operators	Mean ages at which daughters were married		
	Daughters of all farmers	Daughters of owners	Daughters of tenants
All grades	20.0 ± 3.3	20.6 ± 4.4	18.9 ± 2.5
0 - 4	25.0	25.0	—
5 - 8	19.5	19.4	19.9
9 - 12	19.9	20.3	18.4
13 and over	21.2	21.5	21.0

The converse of the foregoing problem is the study of fluctuations in the average amount of schooling received in relation to the age at marriage. This will permit a two-fold comparison of children and parents in respect to the same phenomenon. In Table 95, the average grades of education have been computed for male children who married at different ages.

The data in Table 95 support the preceding findings as to the variability of the marital behavior of the male population. However, it was those who married late and evidently belonged to an older generation than those marrying earlier who broke down the uniformity of the data. It was found that the average grade of schooling increased generally as the age at marriage was retarded up to the age of 29 years. However, for both the owner and the tenant groups, those who postponed marriage until they

were 30 years of age or older, had received the lowest average grades of schooling.

Table 96. Average Number of Years of Schooling Received by Owner and Tenant Operators' Sons According to Ages of Sons at Marriage

Age of sons at marriage	Average schooling received by married sons		
	Sons of all farmers	Sons of owners	Sons of tenants
All ages	10.1 ± 2.7	10.2 ± 2.8	9.5 ± 2.7
Up to 19	9.6	9.7	9.2
20 - 24	10.2	10.4	9.6
25 - 29	10.6	10.9	9.8
30 and over	8.3	9.4	8.0

While the data show that the variables in Table 95 are positively associated, the actual coefficients of correlation between the age at marriage and the highest grade finished in school for males were too small to be recorded. For this reason, they have been discarded. The explanation of the low correlation between these two factors lies in the enormity of the deviations. In each factor there is a possibility for deviations throughout the ranges of the series. That is, the individual with the least amount of education may marry at the latest age. The fact that he had very little education may have caused him to be regarded somewhat as a cull, or an undesirable in marriage. On the other hand, the completion of an advanced grade in school may amount to the creation of a social or cultural chasm between an individual and his prospective mate. Thus, one and the same result may grow out of causes that are radically opposite in nature. While these processes are in operation so as to produce what appears to be a linear relationship, this relationship may be so vaguely defined as to be only casual. Such a condition seems to have been the case in regard to the marital behavior of the male offspring of the families included in this study.

The same relationship for married daughters is shown in Table 96 as was given in Table 95 for married sons of the families visited in the course of the survey.

Table 96. Average Grades Finished at School by Owner and Tenant Operators' Daughters According to Age of Daughters at Marriage

Age of daughters at marriage	Average grade of schooling finished by married daughters		
	Daughters of all farmers	Daughters of owners	Daughters of tenants
All ages	10.3 ± 2.7	10.8 ± 2.7	9.6 ± 2.5
Up to 14	8.0	8.0	--
15 - 19	9.5	10.0	9.3
20 - 24	11.1	11.2	10.7
25 - 29	10.6	11.7	7.0
30 and over	12.0	12.0	--

There are two differences to be noted in comparing males and females as to the influence of age at marriage upon the amount of schooling completed. In the first place, the gains in education in proportion to the same number of years of increase in the age at marriage are much greater for females than for males. In the second place, those females who married after becoming 30 years of age or older, continued to show higher educational attainments on an average than those who married within their "twenties" or earlier. This was not true of males who married at corresponding ages. From this phenomenon there is further demonstration of the thesis that the marital behavior of females is more amenable to logical explanation than that of males so far as may be discerned either from the data at hand or from existing knowledge of the marital tendencies of males. This applies to the group as a whole and to the daughters of owner operators in particular. In the tenant class the sample was too small to admit of generalization.

In the female group of children, there is evidence of a real and tangible relationship between age at marriage and the highest grade or year completed at school, while in the older populations studied previously, this relationship, even for females, was so intangible as to render its statistical significance doubtful.[6] However, there is a factual basis upon which it may be said that the educational levels of the general population have risen materially during the past generation or two. It is to be expected, therefore, that when the population begins in sizeable numbers to pursue education through high school, college, and even the graduate school, it is to be expected that there will be a greater consistency in the correlation between ages at marriage and education. From the studies already made, it seems that the likelihood is great that this will be more noticeable for the female than for the male population.

To analyze further the significance of the relationship between education and age at marriage in the female group, the coefficients of correlation were computed. For the married daughters of all farmers, this gave $r = +.209 \pm .056$; for owner daughters, $r = +.336 \pm .059$; and for tenant daughters, $r = +.209 \pm .112$. Omitting the tenant daughters, these coefficients are high enough to suggest the probability of a functional association between the two factors involved. For the mothers of these same daughters, the coefficient of correlation between the same factors gave $r = +.048 \pm .045$, which means there was only a chance relation between them. In three other groups of married women studied on the same basis, the following coefficients were obtained: $r = +.066 \pm .001$, $r = +.112 \pm .046$, and $r = +.138 \pm .059$, respectively. In all of these

[6] See O. D. Duncan, *supra*.

cases the populations studied were presumably much older than the children of the families of the present study. For the males of the same studies, the coefficients were lower in all cases except one than those for females of corresponding samples. Hence, there is need for restriction and qualification in interpreting the foregoing results. Neither the existence nor the absence of a tangible functional relationship between two variables can be accepted as a factual condition of general application except in the universe in which it is found, and perhaps only in a limited, distinctly defined segment of that universe. Furthermore, a quantitative index of the intensity of the co-variation of two social factors may be expected to vary both in time and in space. Therefore, these observations are to be regarded primarily for their areal significance rather than for their universality.

Usually it is thought that occupational selection in a population group is somewhat symptomatic of social mobility. If so, it would seem that significant variations in social conduct characteristic of occupational differentiations would occur. As a rule each occupation requires its own peculiar adaptations on the part of persons entering it. Some occupations necessitate long preliminary periods of preparation or apprenticeship in order to make possible the acquisition of the appropriate attitudes, knowledge, skills, and techniques, and sometimes the accumulation of the requisite capital, tools, materials, and other equipments. Furthermore, in the occupations in which the basic training needed can be had only by long and arduous study and application, a longer time is required before the workman can reach his full capacity as a producer of economic goods. In view of these considerations, Tables 97 and 98 have been constructed in order to determine if the occupational groups entered by farm children in any perceptible way affect the ages at which these

children enter marriage. The supposition is that the longer the necessary period of preparation, the more exacting the occupation itself, the greater is the likelihood that it will have a retarding influence upon marriage. The data in Table 97 are for married male children of the families surveyed.

Table 97. Mean Ages at Marriage of Male Children of Surveyed Owner and Tenant Families According to Present Occupational Distribution*

Occupational classification of married sons of farm operators	Mean ages at marriage of sons entering specified occupational class		
	Sons of all farmers	Sons of owner farmers	Sons of tenant farmers
All occupations	22.7 ± 5.2	22.9 ± 5.4	22.2 ± 2.6
Agricultural	22.4	22.7	21.7
All non-agricultural	23.3	23.3	23.3
Unskilled	23.6	23.9	23.2
Semi-skilled	22.2	22.2	22.5
Skilled	23.2	22.0	25.0
Sales	23.0	23.0	---
Clerical	23.4	23.3	24.0
Managerial	25.8	26.7	23.0
Business	21.6	21.6	---
Professional	24.7	24.9	23.0
Miscellaneous	21.3	21.3	---

*See footnotes, Table 51, for explanations on occupational classifications.

The heavy preponderance of male children remaining in agriculture, as will be shown in detail later in the study, in itself determines their average ages at marriage. Those who did not remain on the farm were exceptional. For that reason there is a wide variation in the averages for non-agricultural occupations. This is evidenced both by extremely large and very small standard errors of the means as well as the differences between various means. In order to have a basis for general comparisons, the mean ages of all male children, who chose non-agricultural occupations,

are first taken together in contrast with those who became farmers. From this it can be seen that those who were farmers married a little earlier than those who went into non-agricultural occupations. The differences are rather small and do not seem to offer sufficient basis for a general conclusion.

Sons of owner farmers, who were farmers themselves, married only 0.6 years earlier, while farmer sons of tenants married 1.6 years earlier than those who entered non-agricultural employment. It will be observed also that especially for owner sons, the agricultural group is more typical of the sample as a whole with reference to the mean age at marriage than any other occupational class. As has been said this is primarily because of the relatively greater significance of this than of all other classes combined. It is the managerial and professional classes that differ most widely from the general average. Even allowing for the greater variation within these two classes, there is evidence in this that occupations requiring much specialized preparation as a background are likely to interfere with marriage and to cause its postponement until a later age.

There is one admitted weakness in Table 97, and the same holds true for Table 98. The occupational categories are by no means perfect either as to their ordinal arrangement or as to the selection and classifications of occupations placed under them. For this reason, it cannot be expected that the variations between the means of different occupational groupings would show a high degree of consistency. Frequently, it is a necessity to make purely arbitrary and dogmatic dispositions of a stated occupation. Also, it is doubtful if in all cases the occupations given by the informants were either entirely accurate or fully descriptive. All that can be said in defense of the classifications made is that they were set up on the basis of the most careful scrutiny possible in the light of general

knowledge on the part of the writer and an assumed good faith from the viewpoint of the persons interviewed. But even these precautions probably were not sufficiently precise to insure the desired refinement of the data. Despite these weaknesses, the results have some tangible value, because the principal factor involved is the selectivity of agriculture, which is a definitive occupational designation, in comparison with all non-agricultural vocations. Only the minimum of error, that is mistakes, is likely to affect the sortings into these two broad classes.

Table 98. Mean Ages at Marriage of Female Children of Surveyed Families According to Present Occupational Distribution

Occupational origin of mates wedded	Mean ages at marriage of daughters marrying mates from specified occupational class		
	Daughters of all farmers	Daughters of owner farmers	Daughters of tenant farmers
All occupations	20.0 ± 3.8	20.6 ± 4.4	18.9 ± 2.5
Agricultural	19.9	20.6	19.0
All non-agricultural	20.0	20.5	18.8
Unskilled	19.4	19.6	19.1
Semi-skilled	19.1	20.6	18.5
Skilled	18.8	18.3	---
Sales	20.3	21.4	17.5
Clerical	19.0	18.0	20.0
Managerial	20.7	20.5	21.0
Business	22.6	22.6	---
Professional	20.8	20.9	18.0
Miscellaneous	18.6	18.7	18.8

In Table 98, the classifications for married daughters represent the occupational groupings of husbands primarily. In extremely rare instances the daughter had been employed while the husband had not, but these are negligible in importance. The purpose of this tabulation was to discover if possible whether there is a tangible difference in ages at marriage for farm girls who married farm boys as compared with those who married non-farm boys. There are, however, two additional sources of error in this

table which were not applicable to Table 98. First, the informants seemed to know more definitely the occupation of their sons than of their sons-in-law, especially when the places of their residence were at long distances from the farm home and if contacts between parents and children were relatively infrequent. In the second place, not all farmer husbands were farm reared and not all non-farmer husbands were reared off the farm. This undoubtedly makes the classifications even more arbitrary and less distinctive than was characteristic of the data in Table 98.

From Table 98, it is apparent that the variations in the ages at which female children married into various occupational groups are even less uniform and less consistent than was true of male children. This classification furnishes an exception to the rule of greater regularity in the ages of female than of male children at marriage which prevailed in foregoing parts of the discussion on this point. It is barely perceptible that farmers' wives married later than non-farmer wives, although the differences may be attributable entirely to statistical errors. Scarcely can it be expected that this table would show a high degree of consistency between the ages of wives at marriage and occupation selection. In the first place, the education, skills, and other personal characteristics of the wife are secondary to those of the husband so far as occupational fitness is concerned in the overwhelming majority of all families. Usually the essentials of homemaking are characteristically the same in all types of occupations, variations being mostly of degree rather than of kind. Upon these considerations, it seems plausible that neither the prolongation of celibacy nor prematurity of marriage on the part of the female necessarily would bear any definite correlation toward the occupational choice she would make in her husband.

After all, occupational choices in marriage may be determined by environmental associations, sex ratios in occupational groups, geographic mobility of the population, and a large number of purely fortuitous circumstances. Furthermore, there is a great deal of inter-occupational mobility in the population both before and after marriage. None of these things has been eliminated in this study, and it would have been impossible to have taken them into account because of the great geographical dispersion of the married children of the operators visited, and occupational histories are scarcely dependable when based on direct personal interviews.

There can be drawn no general conclusions from Table 98 except as between the ages at marriage of daughters of owner and tenant families. Generally, though not always, daughters of tenants married earlier than those of owners not only as a whole but also in most occupational subdivisions. Where the reverse was true it may be said that the samples in either one case or the other or in both were so small that only a nominal mean was found. These instances can be detected by the standard errors of either approximately zero or so great in size as to render them statistically absurd. Perhaps the statement may be made, assuming a much larger universe than was used, that on the whole the ages of daughters at marriage tended toward approximately the same means in the manual labor groups, while the "white collar" groups may have a characteristic mean, and also the proprietorial business and professional classes. The evidences available indicate that in this order, the mean ages of daughters at marriage rise, but only within a probable range of about two and one-half years. A similar statement also may be applicable to the ages of male children at marriage. However, the more detailed and specific the occupational description the more erratic and incomprehensible the mean

ages at marriage for either sex become.

A hypothesis not supportable on the basis of the data presented may be defensible. From a general study of the marital behavior of farmers, their family budgets, their household organization, the intra-familial division of labor, their property institutions, and their sex mates, it seems that marriage and titular attachment to a plot of land are coincidental ends in themselves to the agricultural population. In this way, marriage is the biological and land occupancy the economic coordinate in the structure of agrarian society. Therefore, for the bulk of the farm bred population, those remaining on farms and for a large portion of those who sooner or later will emigrate from the farm, natural determinants in the long run have precedence over cultural and artificial factors in fixing the ages of the population at marriage.

4. Changes in Ages at Marriage in the Same Population Between Two Generations.

In the period of Oklahoma which is covered by the life-time of the bulk of the population included in the study at hand, social change has been both rapid and enormous. In 1890, 5.4 percent of the population were illiterate as compared with 2.8 percent in 1930. In 1900, the ratio of the total population per female worker gainfully employed was 35.2 to 1, while in 1930 the same comparison gave a ratio of 18.6 to 1. In 1900, only 9.2 percent of all gainfully employed workers, using the census definitions, were females, while in 1930 females comprised 18.6 percent of all gainful workers. In 1900, 70.1 percent of the total employed population were engaged in agriculture, while in 1930 only 37.0 percent were classed as agricultural. In 1890, of the population 15 years of age and over, 58.9 percent of the males and 72.3 percent of the

females were married, but in 1930, for the same ages, 62.9 percent of the males and 67.2 percent of the females were married. In 1890, 61.0 percent of the total population were 15 years of age or older, while in 1930, 66.8 percent were of similar age distribution. In 1890, only 3.7 percent of the population resided in towns of 2500 inhabitants or more, while in 1930, 34.2 percent of a little over nine times as great a proportion, lived in cities of this class and larger.[7]

On the basis of the above described social trends in Oklahoma, popular opinion has assumed that the age of the population at marriage has risen. In fact, the changes which have occurred, are quite generally associated with this supposition, and by comparing studies that have been made it is easy to see how this error has been nurtured.[8] Despite all the superficial indications that the age of the population at marriage is rising, there are indisputable evidences to the contrary in the farm population of Oklahoma. Nor does such a theory hold true for the general population.[9]

A report on two early studies in the United States gives occasion for reflective thought when read in confrontation with the current popular view. It reads as follows:

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[7]See Otis Durant Duncan, Population Trends in Oklahoma.

[8]See especially Bossard, op. cit., and Duncan, Salisbury, Simmons, and McClure, op. cit., for proof that urban populations marry at later ages than those of rural areas. In general, Ernest R. Groves and William F. Ogburn (American Marriage and Family Relationships. New York: Henry Holt & Co., 1928) have found that urbanization, employment of women, and many other social changes which have been characteristic of the country as a whole since 1890, and of Oklahoma in particular, are negatively correlated with the marriage rate, and with the age of the population at marriage.

[9]See U. S. Bureau of Census, Release on the Median Age at Marriage (Mimeograph), Oct. 15, 1935, Table 1, for confirmation of this point; also Groves and Ogburn, op. cit.

> From records Dr. Curtis has computed that the average ages at marriage are, in Massachusetts 28.4 years for males and 24.6 years for females; in Kentucky, 27.1 years for males and 22.3 years for females.[10]

This report does not separate the population by socio-economic groups. However, at the time it was made, Kentucky was primarily an agricultural state, while Massachusetts was predominantly urban. The value of the meager facts presented by Dr. Curtis is that his findings show average ages at marriage in at least areas remote from each other which gives a basis for comparisons in later periods. It will be granted that urban populations do not marry as early as rural people. However, whether or not the trend toward increasing urbanity in recent decades has been concomitant with a further delay of marriage in the urban population itself remains to be proved. To the writer, it seems doubtful if such has been the case. On the other hand, that the farm population of the Southwest, specifically of Oklahoma, is marrying earlier now than formerly, in the light of the data to be presented here, appears to be almost a certainty.

Taking all married operators and their wives in this study as a control group to be compared with the married sons and daughters of the families old enough to have married children, it is at once apparent that there are significant differences in the ages of the two groups at marriage. The data upon which this statement is based are shown in Table 99.

Table 99. Comparison of Original Family Heads and Married Children of Families Studied as to Mean Ages at Marriage and Average Grade of Schooling, by Tenure

Population sample	Mean age at marriage		Average grade of schooling completed	
	Owners	Tenants	Owners	Tenants
Operators, original	26.2	24.4	7.5	7.9
Married male children	22.9	22.2	10.2	9.5
Operators' wives, original	21.7	20.6	8.4	8.1
Married female children	20.6	18.9	10.8	9.6

[10] United States Bureau of Census, Population in the United States in 1860. Washington: Government Printing Office, 1864, p. XXVI.

According to the figures in Table 99, the original sample of male operators married 3.3 years later on an average in the owner class, and 2.2 years later in the tenant group than the male children of the families in the study. Likewise, the owner operators' wives married 1.1 years later and tenant wives 1.7 years later than the married female children of corresponding tenure classes. At the same time the average maxima of grades of schooling received were 2.7 years higher for owner sons than for owner operators and 1.6 years higher for tenant sons than for tenant operators, while the corresponding figures were 2.4 years higher for owner daughters and 1.5 years higher for tenant daughters respectively than for operators' wives of similar tenure status. Actually, these differences may be greater than they appear to be for the reason that some of the younger original operators visited were either sons or sons-in-law of the older families. This would tend to lower the average ages of the propositi at marriage. But admitting the possibility of a somewhat spurious factor here, it is unquestionably true that the mean age at marriage for each sex has been lowered during the same time in which the average levels of education and other forms of acculturation have risen materially.

In another investigation of 1362 farm families located in eleven cotton growing counties of southern Oklahoma, it was found that the mean age at marriage of operators who had been married 20 years or more was 23.6 years and that of sons of these same families was 21.4 years, or a decrease of 2.4 years in the age of the male population at marriage. Similarly, the mean age at marriage of women who had been married 20 years or longer was 19.5 years as compared with 18.9 years for the married daughters of the families studied.[11] Probably, the average age at

[11] Data contained in an unpublished study by O. D. Duncan and J. T. Sanders, at Oklahoma Agricultural Experiment Station.

marriage in the cotton counties is characteristically lower than in the north central winter wheat area primarily because of differences in the territorial origins of the two populations. Quite generally the population of the southern parts of the United States from which the bulk of the Oklahoma cotton farmers came marry earlier than in northern and midwestern sections of which the population of the winter wheat area is typical.[12]

There has been a tendency toward earlier marriages in Oklahoma for at least thirty years.[13] Probably, this has been more noticeable in Oklahoma than in many other states because of the youthfulness of its population. Typical of recently opened agricultural regions, the immigrants into Oklahoma prior to 1900 were composed of comparatively young families on the one hand and of unmarried males on the other. There was a great scarcity of marriageable women at that period. As a result, the male population married much later than is true even in 1910, after the immigrant families had had time to rear their daughters to maturity. While this was true for males, there was a tendency for females to marry somewhat earlier than was the case a decade later. However, as an approach toward a balance of the sexes was achieved, there was a slight relaxation of the tension. Since the World War the marital behavior of the population of Oklahoma has been somewhat more stabilized than formerly, and at

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[12]This statement may be confirmed by a study of census data on age distribution and marital condition of the population of the United States which are reported by states and large cities, in the 1930 Census, Population, Vol. II, pp. 835-1088. See also Median Age at Marriage, U. S. Bureau of Census, Release Oct. 15, 1935, Table 2.

[13]The writer has unpublished data on the number of marriages in Payne County annually from 1895 through 1932. These figures show that this statement is unquestionably correct.

the present time, for the farm population at least, the trends in the ages at marriage of each sex are apparently in the same direction with the usual spread of about three years difference between the ages of husbands and wives prevailing.[14]

Although educational and general cultural standards have risen in Oklahoma during the past generation, which ordinarily would be supposed to be followed by a rise in the age at marriage, it must be recalled that these are absolute changes. It is a debatable question as to whether, for example, to complete the tenth grade is now more difficult than it was previously to complete the eighth grade. Also, there is a question as to whether a farmer who now has a tenth grade education is better fitted for life than a farmer who now has an eighth grade education. Despite the influence of free land in attracting settlers to Oklahoma, which was a stimulus to marriage once the migrants were settled, there was not only a youthfulness of the population but also of the cultural and economic organization. Channels of trade had not been opened

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[14]While the primary emphasis of this discussion is not the development of a general theory of human marriage one observation made from actual data should be recorded as a possible explanation of the preceding interpretations. The data referred to show that in extended periods of comparative prosperity in the business cycle there is not much fluctuation in ages of the population at marriage. As a depression appears, the marriage rate slows down and for a year or two the direction of the age trends appears uncertain. However, after two or three years of depression, there is evidence that age at marriage is materially lowered for both sexes. With a prolongation of business depression, the age begins to rise toward its characteristic level, and may even rise a little higher. Also it has been noticed that the age of males at marriage seems to be more potently affected by economic conditions than that of females. The explanation of these phenomena seems to be that in the beginning of a period of depression the youths of marriageable age have difficulty in accustoming themselves to enforced adjustments in their standards of living, while those who reach maturity after a depression has come, have less difficulty in setting up their budgets because they have never become habituated to living on higher incomes and do not suffer the same economic reverses.

up, roads and transportation facilities had not been built, and most important of all, the agriculture was subjected to uncertainties of expensive experimentation. It was not even known whether the areas of settlement were adaptable to the kinds of crops, the cropping systems, and the economic organization of agriculture to which the settlers had been accustomed at home.

All the foregoing conditions made marriage a hazardous undertaking in the earlier days of territorial settlement. At the present time, not even the disappearance of cheap land, the added costs of government, or the low prices of farm products are sources of as great a degree of uncertainty and insecurity as were the conditions which confronted the progenitors of the present generation of young farmers. When these things are taken into consideration and are weighed dispassionately, many of the palpable reasons for postponement of marriage are of lesser consequence than is generally supposed.

Finally, the trends in the ages of the farm population at marriage in Oklahoma are not out of line with what careful students have believed to be the general tendency in America for a long time. In her last public utterance on October 4, 1927, Mary E. Richmond, whose general comprehension of American marriage problems transcended in its vastness the accumulation of census statistics for a century and a half, made the following assertions:

> ...Immaturity is only one aspect of early marriage. There is the community aspect which the state is not called upon to regulate to anything like the same degree. I refer to marriages between 20 and 25. These may still be called early, and in comparison with marriages contracted at later ages they seem eminently desirable from every point of view. As a nation we marry

> earlier than we used to....There is, however, an unfortunate lag among the very group from whom the nation has a right to expect the most—the professional class.[15]

While Richmond did not supply the factual basis for this statement, she was undoubtedly correct, allowing for the qualifications and limitations she placed upon it. However, nothing in either the above assertion or in any that have preceded it implies that even in agricultural society, marriages are made earlier than among primitive peoples. The application is intended solely for the period since the Industrial Revolution in the United States, or even since the Civil War. In fact, the implications have reference directly to contemporary social trends.

5. Conclusions as to Age at Marriage in the Second Generation.

The study of the ages at which second generation marriages occur reveals there is a carryover from the parental marriages in that both sons and daughters of tenant families married at earlier ages than owner children of corresponding sex. However, children in both tenure groups married earlier than their parents of the same sex, in spite of the fact that cultural and educational levels have risen significantly during the past two or three decades. In view of the tendency toward earlier marriages on the part of children in comparison with parents in the study, there has been a shortening of the spread in ages between the sexes. Whereas owner operators were 4.5 years older than their wives and tenant operators were 3.0 years older than their mates on an average, owners' sons married 2.8 years later than owners' daughters and tenants' sons 3.3 years later than tenants' daughters.

For a long time it has been believed that farmers' children of

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[15] Mary E. Richmond, The Long View, papers and addresses compiled and edited by Joanna C. Colcord and Ruth S. Mann. New York: Russell Sage Foundation, 1930, p. 607.

both sexes who were remaining in agriculture were likely to marry much earlier than those of corresponding sex who emigrated from agriculture. While the data given here lend a modicum of support to this belief, it is by no means as distinctly pronounced as might be supposed. Especially is this true for female children. It is mainly in the case of male children entering managerial and professional occupations that the tendency appears to be significant at all.

Apparently, improvement in the economic conditions of the family, if of any significance, stimulates male children to marry a little earlier than is true for those of very poor and only moderate circumstances. However, for female children the situation is the reverse. This suggests that the severity of poverty may force the daughter to seek economic improvement through marriage, while it operates as a deterrent to marriage for male children. On the other hand, it has been shown that early marriage for the parents in this study was somewhat more characteristic of the poorer families than of the wealthier for both sexes. Although the comparison is not wholly analagous, for in the case of the marriages of parents the data refer to economic status subsequent to marriage while in the case of children they relate to conditions prior to marriage. It is obvious, however, that in an area of mechanized farming such as that surveyed, the demand for female labor in agriculture is relatively small and the social or economic opportunities for daughters of poor families are gravely restricted. For them marriage is an alternative which may be more attractive than remaining at the parental home primarily as consumers on a family budget that is inadequate. In other words, early marriage is a means of temporary escape from the pinch of poverty for the time being even if it may mean greater poverty later on. It may be suggested also that in families living in poverty interests and diversions

other than those having to do with subsistence and mating are scarce. A large part of the conversation in the home lingers around these subjects. There is little competition from discussions about buying more land, improvements for the home or for the farm, education, music, travel, amusements, or any of a great many other topics which consume a relatively large part of family interest among the comparatively well-to-do farm families. In other words, it is to be expected that in any group people will seek to make the adjustments to their life problems which are available to them. Because of the relative scarcity of marriageable women in the farm population, marriage is a fairly easy means of making an economic adjustment which is attainable to the farm girl coming from a family of poor circumstances.

CHAPTER X

COMPARATIVE EDUCATIONAL ADVANCEMENT OF CHILDREN OF OWNER AND TENANT FAMILIES

1. Preliminary Statement.

It is to be expected that there are significant variations in the age-grade distributions of children in school as between tenant and owner families. However, with compulsory school attendance laws applicable to all families alike and with the increasing use of motor-bus transportation for school children, there seems to be no definite reason why existing differences between the educational distributions of owner and tenant children should not be minimized in the future within the compulsory school ages. The chief disturbing factors that may hold on in spite of equalization of educational opportunities are likely to be, first, a tendency of owner children to start to school earlier than tenant children, that is, in pre-compulsory school ages; second, for owner children to persist longer in school during post-compulsory ages than those of tenant parents; and third, for tenant children to suffer loss of time from moving to a greater extent than owner children.[1] It has been shown in earlier parts of the study that owner families are more stable as to residence than tenants.

As for children who have stopped school, it is to be seen that the distributions on the basis of the amount of schooling received favor

[1] See J. T. Sanders, Economic and Social Aspects of Mobility of Oklahoma Farmers. Stillwater: Okla. Agric. Exper. Sta. Bull. 195, pp. 56-64. Sanders shows that children of families which move infrequently average around one-fifth more educational progress per year of school age than those of the more frequently moving families.

children of owner families. That is to say, owner children remained in school longer and pursued their studies further than tenant children. This occurs in spite of the general improvement which has been effected in the state school system.

One of the most tangible indexes of educational status in a population group is the number of years, or the grades, of schooling it has received. But the quantitative measures of education can be expressed only in terms of time or some other arbitrary standards, such as scores on general comprehension tests. In a survey of the type which forms the basis of this study, it is impracticable, if not impossible, to secure test scores and intelligence quotients. However, these would be invaluable assets to the study. The grade finished is at best an inadequate indicator of either specific knowledge or of general cultural assimilation. There is one advantage in using it. Because of familiarity in usage, a particular grade in school has a rather definite common connotation to everyone. But in scientific inquiry the current vernacular is often a pitfall unless it can be surrounded by sufficient fortifications to prevent the imputation of vague and doubtful meanings to it. Therefore, the reference to school grades as used here implies the successful completion of a standard series of disciplines representing the minimum acceptable progress as determined by the regulations of the school systems involved in each case. It means, then, the completion of certain definitely prescribed tasks whether fulfilled by a given child in the course of only one scholastic year or in several years. This makes it possible to study the comparative progress in completing those requirements made by children in different social groups.

2. Children Now in School.

The percentage distributions of all children who were attending school at the time of the survey are given in Table 100 according to the scholastic ages of the children. These data show a perceptible difference between the age composition of the school populations of owner and tenant families.

Table 100. Percentage Distribution of Children Still Attending School According to Ages for Children of Owner and Tenant Families

Scholastic ages of children still in school	Percent of children still in school who were of given age		
	Total (522)	Owners (251)	Tenants (271)
Total	100.0	100.0	100.0
6	4.4	4.0	4.8
7	7.3	5.6	8.9
8	9.4	8.3	10.3
9	5.4	3.6	7.0
10	10.1	10.7	9.6
11	10.1	9.9	10.3
12	8.8	8.8	8.9
13	9.6	9.6	9.6
14	9.8	8.3	11.0
15	6.7	8.8	4.8
16	5.0	5.2	4.8
17	5.9	7.2	4.8
18	3.2	4.8	1.8
19	1.9	2.4	1.5
20	.8	1.2	.4
21	.6	.4	1.1
22 and over	.8	1.2	.4

In setting up Table 100, it was found that there were no children in school who were below the age of six years, which is the minimum free school age in Oklahoma. Therefore, six years is considered as the "normal" age for starting children to school, and in succeeding parts of the discussion this is to be understood.

The data show that in tenant families 40.6 percent of the children in school were ten years of age or under, while owner families showed

32.5 percent of their children in school were of similar age description. In owner families 38.6 percent of the children in school were in the age group from 11 to 14 years, inclusive, and in tenant families the proportion who were of corresponding ages was 39.8 percent. Of all owner children in school, 30.9 percent were 15 years of age or over and of tenant children in school only 19.6 percent were of that age.

The predominance, both absolutely and relatively, of young children in tenant families is due in part to the greater age of owner families in comparison with tenants, which has been shown repeatedly in foregoing parts of the study. Tenant operators being materially younger on the whole than owner operators, there are relatively more tenants than owners whose children are below 15 years of age. Also, children below 15 years of age comprise a greater proportion of all tenant children than of owner children. However, there is another implication in this which will appear as the study is developed. Owner children are more persistent in school than those of tenants, by which is meant that they stay in school somewhat longer and reach higher levels of advancement.

In Table 101, the grade distribution of children in school during the scholastic year of 1932-33 is given. In the first grade the proportions of tenant and owner children are the same as for children six years of age in school, which is as would be expected, unless an occasional precocious child were to enter school in a higher grade than the first. This did not happen. Immediately after the first grade is passed, there is little consistency between the ages and grades of children in school for either owner or tenant groups.

By referring to Table 101 it may be observed that there were three logical grade groupings of the children which show most clearly where the

outstanding differences between owner and tenant children occur. In the fifth grade or below, 32.7 percent of all owner and 46.1 percent of all tenant children were enrolled. Likewise, 43.7 percent of all owner and 41.3 percent of all tenant children were in grades six to nine, inclusive. From the tenth grade upward there were 23.6 percent of all owner and 12.6 percent of all tenant children. It may be seen also that relatively more owner than tenant children had completed each grade from the second onward.

Table 101. Distribution of Children Still Attending School According to the Last Grade Completed for Children of Owner and Tenant Farmers

Grade or year of children still in school*	Percent of children in school who were in each grade		
	Total (522)	Owners (251)	Tenants (271)
Total, all grades	100.0	100.0	100.0
1	4.4	4.0	4.8
2	7.7	6.0	9.2
3	10.0	8.0	11.8
4	9.2	8.3	10.0
5	8.4	6.4	10.3
6	11.9	13.5	10.3
7	11.5	10.7	12.2
8	11.1	10.7	11.4
9	8.0	8.8	7.4
10	4.8	5.6	4.1
11	3.8	4.8	3.0
12	6.1	8.8	3.7
13	1.7	2.8	.7
14	1.0	1.2	.7
15	.2	—	.4
16	.2	.4	—

*Grade 13 means that the child finished one year of college, and grade 16 represents the equivalent of the bachelor's degree.

The foregoing large groupings show that retardation in school among the children studied is much more frequent than acceleration. However, there are appreciable numbers of children in both tenure classes who were

from one to three years further advanced in school grades than their scholastic ages would indicate. Also, the data indicate that there is a greater amount of retardation than is probably the case since a single age was used as the base. Educational statisticians frequently use a two year age interval, starting upon six to seven years and maintaining this spread throughout the entire age-grade distribution series as "normal." This is done because the legal age at starting to school varies in different states. It is permissible to use even five years as the initial age. However, in this study no children of five years of age were reported as having attended school. The reason for the deviation from customary practices in this study was that only Oklahoma children were being considered, and the legal scholastic age is uniform. Consequently, the child who did not start to school at that age has a handicap of one year when he enters school in comparison with children who entered when they were six years old.

Taking all children in school who were from seven to 21 years of age inclusive, it is to be observed that the proportion who were retarded by one grade or more increased rapidly with age. Since the proportions of children six years of age were the same in both tenure groups as the proportions in the first grade, it may be assumed that for that one year there was no retardation. Using the age groupings which seemed to form clusters, the following percentages of children who were retarded one grade or more were found:

Age grouping in years	Percent of children in school who are retarded one or more grades	
	Owner children	Tenant children
All ages	46.1	50.4
7 to 10 inclusive	28.6	33.3
11 to 14 inclusive	41.8	53.7
15 to 21 inclusive	68.0	75.0

These percentages have the limitation that they do not include children who had stopped going to school. In all probability, retardation was as much a characteristic of those already out of school as of those still in school. The data are significant because they show an increase in retardation for both owner and tenant children with increases in age. This is to be expected because the effects of lost time in school are usually cumulative. The data show also that retardation is a far greater problem for tenant than for owner children. There is only a very slight corrective process in operation which tends to offset the cumulative effects of retardation in school. In Table 102, which includes all children in school of whatever age, it will be noted that 46.3 percent of the owner children showed retardation as compared with 48.0 percent tenant children. In other words, the inclusion of all tenant children decreases the proportion of total retardation in a very small degree, and it may be said to have virtually no effect upon the retardation of owner children in school. Table 102 shows the educational progress of children in school as computed from a preliminary cross-tabulated age-grade distribution. This tabulation is not shown in the text of the discussion since only the results were desired.

From Table 102 there are several pertinent observations to be made. First, the configurations of the data on owner and tenant children shown separately do not indicate that the distributions are significantly dissimilar. By studying these data, it may be seen that relatively a few more of the tenant than the owner children were retarded and correspondingly more of the owner than of the tenant children were accelerated relative to the total in each group. Proportionately, there were slightly more of the tenant than of owner children who had made only the normally expected advancement. These data do not justify a sweeping conclusion

that children of tenants suffer noticeably greater educational disadvantages either relatively or absolutely than the children of owners.

Table 102. Educational Progress of Owner and Tenant Children Still in School Assuming Six Years as the Age at Starting to School

Progress of children in school	Number of children			Percent of children		
	Total	Owners	Tenants	Total	Owners	Tenants
Total	522	251	271	100.0	100.0	100.0
3 years advanced	2	0	2	.4	0.0	.7
2 years advanced	11	7	4	2.1	2.8	1.5
1 year advanced	73	39	34	14.0	15.5	12.5
Normal (at grade)	190	89	101	36.4	35.4	37.3
1 year retarded	148	74	74	28.3	29.5	27.3
2 years retarded	59	22	37	11.3	8.8	13.7
3 years retarded	25	15	10	4.8	6.0	3.7
4 years retarded	7	3	4	1.3	1.2	1.5
5 years retarded	4	2	2	.8	.8	.7
6 years retarded	3	0	3	.6	0.0	1.1

In the second place, the data show that the range from the greatest retardation to the highest advancement was wider, extending one year farther in each direction, for the tenant than for the owner group. While the fact that there was greater retardation in the tenant class usually would be expected, it is perhaps phenomenal that the reverse is also true. To be sure, the number of cases in each extreme is small, and in another sample from a similar population the maxima and minima might fall in the owner class. From the standpoint of acculturation, as also from that of economic status, it is not improbable that many of the superior tenants have had far better advantages than a sizeable proportion of the more improvident and inferior owners.

Thirdly, it is a socially significant fact, one which will bear emphasis, that tenant children seem to be equally as capable of making regular progress in school as are the children of owners. But in spite of the greater range in the tenant group, only 14.7 percent of the tenant

children were accelerated by one or more years as compared with 18.3 percent of the owner sample. On the other hand, 46.8 percent of the owner children and 48.0 percent of the tenant children were retarded by one or more years. While this is a small difference, it is worthwhile to note that only 2.0 percent of the owner children were retarded by four years or more as compared with 3.3 percent of those of tenant families.

From the foregoing data it is impossible to determine whether the main sources of the barely perceptible educational lag which exists among the school population in comparison of the tenant with that of the owner families is due principally to hereditary weaknesses or to the comparative impoverishment of the tenant's environment, or to both. The study as a whole has revealed thus far that in an absolute sense the tenant population as a whole maintained a lower average standard of living than owners as measured by net spendable income. It was also found that there was greater economic insecurity among the bulk of the tenant population than in the majority of the owner families. Finally, it has been pointed out that the inert and shiftless classes of farmers tend to be tenants in greater proportions than owners. In view of these things, it would seem that differences in the educational progress of children are more often attributable to environment than to heredity.

The writer inclines toward the euthenic rather than the eugenic interpretation of the social differences between owner and tenant populations for several reasons. First, it has been found that 1.9 percent more of the tenant than of the owner children were distributed normally on the basis of ages and grades in school, and the largest proportions of the children in both groups were found to have made progress in school which was in identical proportion to their ages. In the second place,

the study has shown that the majority of all tenant operators are prospective owners if they survive the age of 50 years, and a very large proportion of all owners have been tenants. In the third place, the untoward influences of low prices for farm products in relation to consumption goods bought by farmers which have prevailed since 1920 have hit the young tenant farmer unduly hard, because his reserves were small from the start. The price of land has been unreasonably high since the World War, in proportion to its productivity. Interest charges, taxes, and depreciation under these conditions have soared outside the bounds of reason, and have been stubbornly inflexible. Certainly these factors affect the ownership of homes, and they have prevailed irrespective of either the biological or the educational qualities of the population.

Older farmers, among whom most of the owners are found, either who had their land paid for or who had a sizeable equity in it, did not have as great obstacles to overcome in trying to remain owners as did tenants with no equities in attempting to become owners.

If by environment, one means to include not only the physical surroundings, but the entire socio-economic milieu, it is apparent that the insecurity of the landless farm population has been greatly increased by economic trends since the World War. This is not to deny the powerful and important influences of the innate qualities of the population. However, in periods of rapid transition, of violent cultural change, of disastrous economic upheaval, and of radical technological revolution, it is improbable that the inherent nature of men on any economic level can be charged with as great a part of the responsibility for determining his cultural status as the environmental factors.[2]

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[2]Cf. William Fielding Ogburn, Social Change. New York: B. W. Huebsch Inc., 1923, Pt. IV on Social Maladjustments; F. Stuart Chapin, Cultural Change. New York: The Century Co., 1928, Pt. III on interpretation of

3. Education of Children Who Have Stopped School.

As would be expected, the grade distribution of children who have ended their schooling is somewhat different from that of children still attending school. In the first place, those who have ended their schooling are older than those yet in school. In the second place, both the minimum and the maximum grade limits can be determined for those out of school, while this cannot be said of those still going to school. Third, the factor of deaths has in all probability distorted the distribution of those who had completed their schooling more than of those who had not. Fourth, it has been shown that the educational level of the population is rising perceptibly. Increasing proportions of children are graduating from the eighth and twelfth grades and from college. Each year there is a disproportionate increase in the number of children through school who have finished those grades, and a relative decrease in the numbers stopping school at intermediate levels, while the age-grade distribution of children in school changes only gradually. These are conditions which have been indicated in previous portions of the study to be true in general.

In Table 103 the numerical distributions of children who have stopped school are given. Also, the average highest grade completed is shown for children of each sex for both owner and tenant families. These data are basic to the construction of other tables which follow.

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cultural change; Joseph Kirk Folsom, Culture and Social Progress. New York: Longmans Green and Co., 1928, pp. 91-127, et passim; Paul H. Landis, "Social Change and Social Interaction as Factors in Cultural Change," Amer. Jour. Sociol., Vol. XLI, No. 1, pp. 52-58. These are only typical of an endless number of writings in which the thesis of cultural determinism is explored at great length.

Table 103. Number of Owner and Tenant Children Who Have Stopped School in 562 Farm Families According to the Grade at Which School Ended, by Sex

Grade or year finished in school*	Number of male children finishing grade in school			Number of female children finishing grade in school		
	Total	Owners	Tenants	Total	Owners	Tenants
Total for all grades	507	371	136	444	322	122
4	6	5	1	1	1	—
5	4	2	2	2	—	2
6	6	3	3	7	4	3
7	14	9	5	15	1	14
8	197	134	63	153	115	38
9	29	17	12	20	11	9
10	35	26	9	27	16	11
11	15	13	2	12	8	4
12	124	96	28	124	95	29
13	18	15	3	17	15	2
14	16	13	3	26	22	4
15	9	7	2	11	9	2
16	31	26	5	25	21	4
17	2	2	—	2	2	—
18	—	—	—	1	1	—
19	1	1	—	1	1	—

*Years in college begin at grade 13 and continue through grade 19. Thus, grade 16 represents graduation from college and grade 19 the completion of the Ph.D. degree. There were no children whose education was terminated below the fourth grade.

The same distributions which are shown cardinally in Table 103 have been converted into percentage distributions and are shown again in Table 104.

The first observation to be made from Tables 103 and 104 is that none of the children stopped school before the completion of the fourth grade. For that reason no figures are given for the first three grades. In all cases except one or two, all children who were of adult age had gone to school a minimum of four years or had the equivalent of a fourth grade education.[3] The second observation is graduation from the eighth

[3]There were two boys of adult age in the families visited who were described by their parents as being "half-wits." These children obviously were imbeciles or perhaps idiots, and are not counted in the above classifications.

grade, the twelfth grade, and from college are the critical points in the selection of education. In the owner groups, graduates from these three divisions comprised 69.3 percent of the total, and in the tenant class they composed 68.0 percent of the entire sample.

Table 104. Percentage Distribution of Owner and Tenant Children Who Have Stopped School According to the Grade at Which Schooling Ended, by Sex

Grade or year finished in school*	Percent of male children finishing grade in school			Percent of female children finishing grade in school		
	Total	Owners	Tenants	Total	Owners	Tenants
All grades	100.0	100.0	100.0	100.0	100.0	100.0
4	1.2	1.3	.7	.2	.3	---
5	.6	.6	1.5	.4	---	1.6
6	1.2	.8	2.2	1.6	1.2	2.5
7	2.8	2.4	3.7	3.4	.3	11.5
8	38.8	36.1	46.3	34.5	35.7	31.1
9	5.7	4.6	8.8	4.5	3.4	7.4
10	6.9	7.0	6.6	6.1	5.0	9.0
11	3.0	3.5	1.5	2.7	2.5	3.3
12	24.4	25.9	20.6	27.9	29.5	23.8
13	3.5	4.0	2.2	3.8	4.7	1.6
14	3.2	3.5	2.2	5.9	6.9	3.3
15	1.8	1.9	1.5	2.5	2.8	1.6
16	6.1	7.5	2.2	5.6	6.5	3.3
17	.4	.6	---	.5	.6	---
18	---	---	---	.2	.3	---
19	.2	.3	---	.2	.3	---

*See Footnote, Table 103.

In Table 105 the simple percentages given in Table 104 have been cumulated so as to show the pyramiding effects of educational selection.

As has been pointed out in the immediately foregoing statements, there is a preponderance of children who completed either the eighth or the twelfth grade or four years in college. Because of the heavy concentrations at these points, the distributions are far from regular and symmetrical. This lack of symmetry in the distributions is to be regarded as an indication that educational attainments are much higher in the popu-

lation studied than would be the case if the so-called normal type of distribution prevailed. In a symmetrical distribution, a gradual tapering of the slope from the minimum to the maximum, certainly from the eighth grade upward, is to be expected. In some sections of Oklahoma it is not improbable that this type of distribution exists. However, in respect to education, the greater part of the area of this study ranks at the top of all Oklahoma counties. In this respect, the sample obtained is not at all typical of the State.[4]

Table 106. Cumulative Percentages of Children Out of School Who Completed Specified Grades (Data Cumulated from Table 104)

Grade or year finished in school*	Owners' children		Tenants' children	
	Males	Females	Males	Females
4	100.0	100.0	100.0	100.0
5	98.7	99.7	99.3	100.0
6	98.1	99.7	97.8	98.4
7	97.3	98.5	95.6	95.9
8	84.9	90.2	91.9	84.4
9	58.8	62.5	45.6	53.3
10	54.2	59.1	36.8	45.9
11	47.2	54.1	30.2	36.9
12	43.7	51.6	28.7	33.6
13	17.8	22.1	8.1	9.8
14	13.8	17.4	5.9	8.2
15	10.3	10.5	3.7	4.9
16	8.4	7.7	2.2	3.3
17	.9	1.2	---	---
18	.3	.6	---	---
19	.3	.3	---	---

*See footnote, Table 103.

[4] See E. E. Brown, A Statistical Survey by Counties of Education in Oklahoma. Oklahoma City: State Department of Education Bulletin No. 110, 1925, pp. 74-79. Brown develops composite indexes of school efficiency which take into consideration fiscal condition of schools, training of teachers, school attendance, ratio of actual to expected graduation from grammar school and high school, and other tangible factors. Ranked on the basis of his index of school efficiency, Alfalfa County stood at first place, Kingfisher County at 29th place, and Logan County 41st among a total of 77 counties. Approximately one-half of the farms visited were in the Alfalfa County area, about one-seventh were in the Logan County area, and the remainder in the Kingfisher territory. Thus, the preponderance in this sample of farm people of superior education arises.

4. Size of Family and Birth Order Related to Education of Children Out of School.

In various ways it has been shown in preceding parts of the study that the size of families is an important factor in the socio-economic life of the farm population. Also, popular prejudice has imputed much weight to this one influence as a "cause" of poverty and inadequate standards of living. However, the concrete evidences of the relation between the size and the social condition of families are often contradictory to the popular assumptions. But, as related to education, there seems to be a tangible basis for the inference that within limits, as the number of children born to the farm family increases, the educational opportunities of these children born to the farm family increase, the educational opportunities of these children tend to be somewhat restricted. A minute examination of the data of this study shows that when the number of children born per family exceeds five or six at most, there begins to appear a noticeable limitation upon the schooling of children except, of course, those families having far greater than average economic resources.

A further consideration of the demographic factor in relation to education may be based on the birth order of children. Much discussion and at least a modicum of research has revolved around this point during recent years. Students of population have heard repeated discussions as to whether great leaders and prominent persons are more likely to be the eldest or the youngest children of their families. Laws of primogeniture and limitations restricting the order of marriage of children to their order of birth which have been found in many societies have been established in deference to the idea that birth order confers definite enfranchisements, privileges, obligations, immunities, and disabilities upon children. An example of this is the succession to preferred titles in

the order of birth by the heirs of the royalty and the lesser nobility. However, when this thesis is applied to education in the farm population, the data at hand do not indicate that it has any perceptible weight, with the possible exception of tenant farmers and perhaps others of the very lowest economic strata.

The following coefficients of simple correlation of demographic factors and grade finished in school have been obtained:

Tenure status of child's parents	Number of children born per family	Order of birth of child completing grade
All farmers	-.390 ± .028	+.023 ± .032
Owners	-.440 ± .031	-.0005 ± .037
Tenants	-.188 ± .060	-.201 ± .060

The coefficients of simple correlation, which relate to the number of children born per family, are sufficiently large both absolutely and relatively to be regarded as meaningful. They indicate consistently that as the size of the family increased, there was a tendency for the children to stop school at the end of the lower grades. Inasmuch as it was found in Part III of this study that there was an inverse relation between the number of persons in a family and the expenditures for advancement, it is believed that this interpretation, subject to the limitation of similarity of economic status and to the further limitation that the size of families must be measured by the group average, is entirely defensible.[5]

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[5]The data have not been treated so as to develop a thesis analogous either to the theories of an "optimum population" which have been advanced by Professor A. M. Carr-Saunders and others, or of an "ecological balance" about which Professor Radhakamal Mukerjee has written much in late years. Yet time and again the inference that there is an optimum sized farm family in relation to an optimum sized farm or an optimum economic pattern for the farm family seems to appear unbidden upon the surface. In other words, this principle suggests that the adequacy of farm family living, measured

The foregoing data contain no implication as to the qualitative character of the work done in school by the persons studied. There is probably no measurable relationship between the size of families and the quality of school work done by farm children. Maxwell and Huestis have studied this point, but the results they obtained did not indicate that size of families has any bearing upon test scores of school children from various occupational groups, including farmers.[6] The data obtained in the survey did not include any qualitative index of school work.

The correlations on birth order and amount of schooling received, except for the tenant population, were too low to suggest any conclusion whatever other than that the two factors have no functional association. For the tenant group a negative coefficient almost large enough to detect a relationship between these factors was obtained. Whether or not there is a selection of tenant children in school on the basis of birth order is open to disputation, because there appears to be neither a positive nor a negative elimination of owner children on this basis.

5. Education of Children and Parents Compared.

In the preceding section of this discussion it has been shown that the average amount of schooling received by married sons and daughters was appreciably higher than for the original family heads surveyed. The differences are even slightly greater when all children who have stopped school are included along with those who have married. These comparisons

by the satisfaction of physiological wants, the stimulation of cultural wants and their gratification, and the provision for security in old age and against misfortune, is primarily a function human and natural resources brought together in the most ideal combination, while other factors, such as tenure status, distance from town, membership in organization, etc., are of secondary, if not tertiary, importance.

[6] See Aline Maxwell and K. M. Huestis, "Student Test Score Rank and Family Size," Jour. Heredity, XXI, 1930, pp. 211-215.

are shown in Table 106.

Table 106. Comparison of Average Grade Completed and Percent Whose Schooling Ended with the Completion of the Eighth Grade for Original Family Heads and for Adult Children Who Have Stopped School, by Tenure

Population sample	Average highest grade completed		Percent whose schooling ended with the 8th grade	
	Owners	Tenants	Owners	Tenants
Original operators	7.5	7.9	51.7	50.6
Operators' sons*	10.4	9.5	36.0	46.3
Operators' wives	8.4	8.1	76.0	60.1
Operators' daughters*	10.8	9.9	35.7	31.1

*Includes both married and unmarried children who have stopped school.

Table 106 shows that not only did the children of the families studied remain in school longer than the original family heads, as revealed by a comparison of the average grades finished, but also that smaller proportions of the children than of the parents ended their schooling in the eighth grade. The data indicate that the educational levels of the farm population have risen in the younger generation as compared with the older. Also by comparing the averages in Table 106 with those given in Table 99, it may be seen that even within the younger population there has been a perceptible increase in the amount of schooling for the younger children compared with the older. Especially is this noticeable for the sons of owners and the daughters of tenants.

Furthermore, the decrease in the proportions of children of each sex, as compared with parents of the same sex, who finished the eighth grade and withdrew from school, has been taken up by larger proportions of children than of parents who went on through high school and college. It will be remembered that there were no children who stopped school before completing the fourth grade, and no adult children, except those

who were feeble-minded who had never gone to school. In the parental families it was not uncommon to find family heads who either had never gone to school or who had withdrawn from school in the primary grades. This fact alone would tend to raise the average grade completed by children. However, the main thing is that by remaining in school and continuing through high school and college, the younger generation have greatly improved their formal education quantitatively in comparison with that of their parents.

A better idea of the foregoing contrasts may be had from an examination of Table 107. In this table the groupings are identical by grades for original operators, both owners and tenants, and their wives, sons, and daughters. The table is so arranged that fathers and sons and mothers and daughters in each tenure class are immediately comparable throughout the grade groupings. The purpose of this arrangement of the data is to present at close range an idea as to the significance of the changes which have occurred in the grade distribution of the farm population in the area studied with reference to the past and the present. For the most part, owner operators represent a vanishing generation and tenant farmers the present generation. It may be said that the children of these families in some measure combine to give a partial picture of the educational attainments of farm family heads both in the present and the immediate future.

The grade divisions in Table 107 are representative of the primary, grammar school, high school and college divisions of the "educational ladder." There are several significant observations to be made from these data. In the fourth grade division, as has been pointed out already, all cases of operators' children were those who stopped school at that grade only. This grouping is influenced as much by the age and

sex of the population as by any other factors. There were relatively more males than females, and more of the older population than of the younger who did not advance beyond the fourth grade in school. Repeatedly, it has been pointed out that age is a factor in the tenure distribution of the population, of the operators in particular. Even the children of owners fall into the lowest extreme educational group in greater relative frequency than those of tenants. This is logical; since the owner operators are older than the tenants, it follows that owner children are somewhat older than tenant children. In Oklahoma, educational advantages have been improved so rapidly since statehood, it is but to be expected that the younger population will show higher average grades of schooling than the older, and consequently a smaller, proportion with little or no schooling.

Table 107. Comparative Percentage Distributions of Original Family Heads and All Their Children Who Had Stopped School as to Grade Groupings

Population sample	Percent of population in grade grouping			
	4th grade and below	Grades 5 to 8	Grades 9 to 12	13 and over**
Males:				
Original owner operators*	11.7	74.1	9.3	4.9
Sons of owner operators	1.3	39.9	41.0	17.8
Original tenant operators*	8.1	66.9	19.8	5.2
Sons of tenant operators	.7	53.7	37.5	8.1
Females:				
Wives of owner operators	4.5	71.5	17.4	6.6
Daughters of owner operators	.3	37.2	40.4	22.1
Wives of tenant operators	2.8	58.0	26.9	12.3
Daughters of tenant operators	--	46.7	43.5	9.8

*In this table the percentages are based on only the married original operators so as to maintain comparableness with the wives. In Table 55 all operators whether married or single were counted. This explains the discrepancies between the two tables.

**Includes all who have attended college one or more years.

A similar comparison exists in the grammar school division, but with the proportions of tenant and owner children who left school at this level reversed in comparison with the preceding group. Perhaps, in the grammar school other factors than sex and age become operative. Certainly by the end of the eighth year in school the economic problem of making a living becomes a competitor with the recognized need for an education. This apparently shows up in the tenant population among whom labor is a highly important agent in producing the family income, and the labor of children is an essential supplement to that of the family head.

There were nearly twice as many tenant family heads of both sexes who attended high school as of owner operators and wives. Again, this is partly explained by the differences in the cultural environments of the two groups during their youth. However, there is another important factor which must not be overlooked. In Alfalfa County, 46.2 percent of the tenants were related to their landlords; in Kingfisher County, 30.4 percent; and in Logan County, 17.3 percent were related to the land owners. In a very large share of such cases the owner of the land is either the father or the father-in-law of the tenant. This means that the tenants themselves have been reared to a large extent as owners. Not only that, but it goes without proof that a large proportion of the tenants who were not related to their landlords were actually children of farm owners. When these two things are considered, it is not unlikely that more than half of the tenant families of this study were occupying the status of tenant farmers only as a stage of transition. The importance of these reservations likely is not felt to a great extent while children were still in the grade school because they were not large enough to be economically valuable as farm laborers. In

the high school, a deciding factor is whether or not the operator is able to hire farm laborers. If not, he will probably take his children, especially the boys, away from school to work. Since the present tenant population is very largely of owner origin and probably to a greater extent than the owner population itself, it is to be expected that the tenant children would have had better educational advantages than would be indicated by their tenure status.

On the college level, the comparative advantage of tenant over owner family heads shows up clearly, especially for female heads. There is no significant difference for males. But practically twice as large a proportion of tenant as of owner wives attended college. On the other hand, twice as many owner as tenant children relative to numbers attended college. From Table 105 it may be seen that there were 9.9 percent of all male children and 9.8 percent of all female children of owner families who finished four years or more in college as compared with 2.2 percent of all male and 3.3 percent of all female children of tenant families. There were no tenant children of either sex who had done any post-graduate work in college, while 1.5 percent of the male and 2.1 percent of the female children of owner families had spent from one to three years in graduate school. Also there were no parents of either sex or in either tenure group who had done post-graduate study.

In addition to the factors determining the continuation of children through high school, there is another consideration which affects the tenure distribution of college students. By the time the child is old enough to go to college, his father will ordinarily be around 45 or 50 years of age. In a previous section of this study it was estimated that the men who remained on the farm and survived the age of 50 years had about four chances out of five for becoming an owner. This means

that an overwhelming majority of the tenant children who enter school in the first grade have far better than an even chance for graduating from college as children of owners, and the prospects for a change of tenure status before the youngest children in a family reach college age are better than for the older children. While the data do not show the actual effects of these changes on the agricultural ladder, they are none the less real and active. Hence, another of the so-called inherent "evils" of farm tenancy is without support either in fact or in simple logic.

From the preceding data and their interpretation, it has been shown that in matters of education there are social strata in agricultural society. However, the age of the population, the prevailing conditions during its childhood, are of almost, if not equally, as great importance as tenure status of the operator's family in sorting out the persons who belong in each stratum. It seems that the lower educational extreme has been elevated by about four years, and the impact of the disturbance in social space which this has caused has continued upward through the educational pyramid raising the apex as well as the base. The trends in education of the farm population have not been toward a leveling down of irregularities so much as of lifting up the bottom and raising the peaks higher. As measured by the comparative amounts of schooling received by the farm population, past and present, there has been both an absolute and a relative heightening of the educational pyramid.

6. Sociological Significance of Educational Selection in the Farm Population.

The foregoing discussion of educational selection in reference to tenure status of the farm population has given rise to a rather important question. It has shown that the general educational level of the farm

population has been raised appreciably. A recurrent fact throughout the whole study thus far has been that tenant family heads had gone to school more than the heads of owner families. But the study of educational advancement of the children of these family heads shows distinctly that owner children went farther in school and wasted or lost less time as indicated by the figures on retardation than tenant children. The thesis all along has been that tenants are a younger population group as a whole than owners, and this has been given as a reason why tenant family heads had received more schooling than owners. Specifically, it may be inquired if this does not introduce an element of conflict in the theory developed by the study.

The reply to that question would be that there is no contradiction involved either between the two sets of facts or between their interpretations. The difference between owners and tenants in the amounts of schooling received by each have been explained, first, on the basis of age and social trends. These are regarded as irrefutable facts, not only on the strength of internal but also on that of external evidences. In the second place, tenant farmers are in a large degree the sons of owner families and enjoyed the conditions of owner homes while they were in their youth. As adults they became tenants, and as tenants they have lowered their standards of living. Whether by circumstances within or beyond their control, the results are the same. Therefore, they, as tenants, are less able to provide their children the educational advantages they enjoyed than were their fathers and other farm owners. Hence the children of tenants show up poorly when compared with owners' children on education. However, the adult sons and daughters of tenant farmers went farther in school than either their own parents or the heads of owner families. In other words, the base of the educational pyramid

of the present generation has been above the second level of that of the immediate past.

Another angle of educational selection is that taking children 10 years of age and under who were in school when the survey was made, exactly the same proportions, 23.0 percent, were accelerated one or more in both tenure groups. The discrepancy occurs in the division of those making only normal school progress or below, in the early ages of life. From this it may be concluded that the genetic quality of the tenant population does not militate against its cultural advancement, at least in comparison with owners. This, apparently, lends support to the contention made many times that farm tenancy is a socio-economic rather than a bio-social problem.

CHAPTER XI

OCCUPATIONAL SELECTION OF CHILDREN OF FARM FAMILIES

1. The Problem of Occupational Selection.

Already, brief mention has been made of occupational selection as a factor influencing the age of farm children at marriage. This was done somewhat incidentally, and not with the intention of trying to explain the process of absorption of farm youth into occupations, but rather in an attempt to show how occupations chosen acted as limiting influences upon the ages of children at marriage.

The problem of immediate concern now is to explain how different factors, especially the sex of children, the tenure status of the family, marital condition, and the education of children are related, as independent factors, to occupational choices of the farm youth. There are evidences that there are selective factors which operated in such a way that not all farm youth are absorbed into various occupational classes in like proportions. In other words, children are drawn into occupations as though it were through some kind of porous membrane or sieve, by a selective process which eliminates large numbers and tends to segregate those which pass through the selective channels according to certain rather definite characteristics depending upon the occupational positions into which they are placed. Those who are held back by the selective devices employed remain in agriculture, at least for a time. However, it does not follow that those who run the gamut of selection are definitely taken out of agriculture, for as has been shown previously

for the parental group, there is a continual reverse selection by which those who have deserted agriculture are returned. Also, many of those who at the first trial at occupational establishment find agriculture the most inviting occupation at later times will try to make connections outside of agriculture.

The important sociological question concerning the occupational selection of farm youth is not so much how many as what kinds of young people leave the farms for other work. Stated in another way, it is the qualitative rather than the quantitative phases of the problem which are most vital to the farm population itself and to society at large. It is frankly conceded, insistently urged, that the weaknesses of survey techniques militate against and hinder more seriously the attempts to get at the roots of the qualitative than at the quantitative aspects of occupational selection which are more superficial. While age, sex, marital condition, education, and socio-economic status are all factors somewhat indicative of the quality of a population, they can be so regarded mainly in an indirect way. Education, for example, is selective in some ways as to mental characteristics. That is, the bright children are supposed to go further in school and to be able to cover the same ground in less time than the average or the dull, but too often education represents intellectual equipment as much as or more than innate mental capacity. Not only that, knowing the school grade a child passed is one thing but knowing what he learned, or his potentiality for further learning, is quite a different thing. In other words, the qualitative traits of a population which are accessible to a field survey are at best mere inferences as to quality.

The limitations of this portion of the study which have been recognized are themselves the most eloquent case for laboratory research into

the problem at hand that could be formulated. What is needed is a way to arrive at a knowledge of (1) the biology of occupational selection in more elaborate terms than age and sex; (2) a more complete knowledge of the psychology of occupational selection than mere school progress, (3) improved measures of the sociology of this type of selection, and (4) a more definite understanding of the economics of occupational selection. Physiological measurements and examinations are needed both for those who migrate and those who remain at home in order to determine if the stronger and more vigorous stocks are drained away from the farms. Likewise, psychological tests are needed in order to determine similar information from the standpoint of the mental capacity of the population. This could be aided by the use of comprehensive educational tests designed to discover not only the intelligence quotients but also the cultural attainments of those migrating from and those remaining in agriculture. These also should be supplemented by vocational aptitude tests in order to determine if the right persons are migrating. Sociologically, one of the big problems is the effects of occupational selection upon rural-urban leadership and community life. This is a field for pioneer work in social investigation. On the economic side, there is need for information not only on the economic status of the migrating and the remaining population, but also on the effects of such migration upon the economic life of the community both at the points of origin and destination.

If, by its limitations, this part of the study may be able to demonstrate the need for new procedure and techniques in this type of social investigation and be able to show by implication how they may be applied, it will have served a purpose far more useful than the few facts it presents. Incidentally, the greatest obstacle in the way of more searching

techniques in this type of study is the inaccessibility of the migrating population on the one hand, and the impracticability of trying to employ laboratory techniques to the resident population, over whom the investigator has no jurisdiction except good will, on the other.

Regardless of the crudeness and awkwardness necessarily attendant to the survey method, it is believed that the results obtained hold something which may be of tangible value in arriving at an understanding of the processes of occupational selection and their chief forms of manifestation.

2. Inter-occupational Selection in Marriage of Children.

In spite of an enormous emigration of farm population during recent decades, agriculture furnishes the means of employment of probably twice as many farm reared people as all other occupations combined. Not only that, but in marital selection the farm also provides at least three or four times as many mates for its young people as come from all other sources taken together. This appears to be true in the area of this study both for the original family heads and their children. That there are variations from this in other parts of the country is more than probable. The inter-occupational selection of children through marriage is shown by the data in Table 108. These figures are for the fathers-in-law of the married children and are given separately for children of each sex.

Altogether, there were 531 children of the families studied who were married. Of these 236, or 44.4 percent, were males and 295, or 55.6 percent, were females. While the total number of married children was almost as great as the total number of operators who either were married or had been married, there being 537 of the latter; the number

of persons among the married children was only about half as great as the total heads of families. However, there was a fair degree of consistency between the occupational distribution of fathers-in-law of operator family heads and of their children of corresponding sex. It may be recalled by consulting Table 76 that the chances that in a random sample both the operator and his wife were farm reared were 84.1 out of 100. The data in Table 108 show that 86.0 percent of the fathers-in-law of male children and 82.3 percent of those of female children were farmers. From these data it does not appear that there has been a significant change between the two generations, in the proportions of young people marrying back into agriculture.

Table 108. Occupational Distribution of Fathers-in-Law of Married Children of Farm Operators Studied, by Sex

Occupations of fathers-in-law of married children	Fathers-in-law of all married children		Fathers-in-law of married male children		Fathers-in-law of married female children	
	Number	Percent	Number	Percent	Number	Percent
All occupations	531	100.0	236	100.0	295	100.0
Agricultural	446	84.0	203	86.0	243	82.3
Unskilled	15	2.8	7	3.0	8	2.7
Semi-skilled	18	3.4	8	3.4	10	3.4
Skilled	5	.9	3	1.3	2	.7
Sales	1	.2	1	.4	0	0.0
Clerical	6	1.1	2	.8	4	1.4
Managerial	0	0.0	0	0.0	0	0.0
Business	20	3.8	4	1.7	16	5.4
Professional	6	1.1	1	.4	5	1.7
Miscellaneous*	14	2.7	7	3.0	7	2.4

*Mostly unknown or not ascertainable with sufficient definiteness to admit of inclusion in other classifications.

Because of the smallness of the numbers involved, both absolute and relative, the distributions of children marrying outside of agriculture are so erratic as not to be wholly reliable as bases for interpretations. However, it is perhaps worth noting that 3.7 percent more male than female

children married farm-reared mates. Sociologically, it may be significant that except for girls marrying into the business group in greater proportion than boys, there was little or no sex selection that could not be accounted for by errors in sampling between various occupational classes.

In the parental group (see Table 76) it was the males who married mates of non-farm origin more often than the females. Among the filial samples females married outside of agriculture relatively more often than the males. In both instances, however, the differences are small. No doubt, this reversal of a tendency even if slight has been due to several socio-economic changes which have occurred during the period of rapid industrial and commercial development which characterized Oklahoma prior to the beginning of the depression in 1929. Among the younger generation there has been a relative decline in the scarcity of marriageable women in proportion to men. Still, there was in 1930 a ratio of 180.3 males to 100 females of marriageable age and condition in the farm population of Oklahoma. In the second place, there has been a rapid growth of urbanization and an increase in the employment of women, which two factors have doubtless given females a wider range of choice in marriage as time went on. Thirdly, there is an increasing proportion of Oklahoma born population in every section of the State, which in turn leads toward a settling of the population into more definitely organized channels of social conduct of all kinds. This reversion of tendencies may be only an indication that a definite tendency has never been established for any noticeable time interval.

3. Sex Factor in Occupational Choices of Children.

Perhaps more important than selection of occupational affinity by marriage is the actual choice of the occupation to be one's source of livelihood. This represents a form of social mobility which is extremely potent in determining one's social status in life. Occupational description, though arbitrary and somewhat indefinite, is indicative of the skills and talents possessed by a population. In a limited way occupational selection gives a picture of the processes, the outlets, through which the latent or potential skills and energies of a social group are being transformed into kinetic or dynamic energies. The absolute numbers which represent the kinds of social capillarity which are taking place in the younger farm population of this study are given in Table 109. True enough, the return to agriculture for children of both sexes is so great as to minimize the importance of the agricultural exodus. However, in Table 110, it may be seen that this egression from agriculture is both statistically and sociologically important.

The data in Tables 109 and 110 show occupational choices of both married and unmarried children of both sexes so far as could be determined on the basis of their then present employment. The separation of unmarried children from those married was thought necessary because of the potentially greater social and geographic mobility of the single children, whose occupational designations must be regarded as only tentative and provisional. While there may be changes by individuals in the married group, it is not likely that the structure of the group will change abruptly as a whole. But by comparing the two groups, it seems almost certain that with the accumulation of age and with marriage, the unmarried population will inevitably assume a different social stratification than it now has.

Table 109. Occupational Distribution of Children of Farm Operators on the Basis of Present Employment

Present occupational classification of children	Number of male children			Number of female children		
	Total male children	All ages (married)	Unmarried 21 years of age and over	Total female children	All ages (married) ****	Unmarried 18 years of age and over
All occupations	427	236	191	398	295	103
Agricultural*	312	153	159	261	189	72
Unskilled**	38	25	13	17	15	2
Semi-skilled	26	21	5	30	26	4
Skilled	6	4	2	3	3	0
Sales	6	3	3	9	8	1
Clerical	10	7	3	6	2	4
Managerial	5	4	1	3	3	0
Business	6	5	1	16	16	0
Professional	14	11	3	40	23	17
Miscellaneous***	4	3	1	13	10	3

*Includes one unmarried male child working away from home. Otherwise all unmarried children in agriculture were living at the parental home.

**Includes two unmarried male children living at home but working elsewhere. All other children in this group were away from home. In all other non-agricultural occupations children employed were living away from the parental home.

***Contains cases not definitely ascertainable as well as two husbands of married daughters who had never been regularly employed.

****Occupational classification of married daughters is based upon the husband's occupation.

The data in Table 110 show that there is no significant difference between the proportions of married male and female children who remained in agriculture. The principal differences are in the selection as to non-agricultural occupations into which married children go. Unskilled labor absorbed 10.6 percent of the male and only 4.3 percent of the female children, while the professional classes took up 4.6 percent of the male and 10.1 percent of the married female children. In other occupational groups the sex relation was either about in equal proportions or of so little variation as to be attributable to errors and chance factors in sampling. Approximately twice as many married females as males went into business,

and twice as many males as females were drawn into clerical work in proportion to numbers. However, in both these latter cases, the absolute size of the numbers involved was too small to admit of anything but tentative conclusions. Leaving out unskilled labor and the professions, 20.0 percent of both the married males and the females were taken into all other non-agricultural occupations. So far as the married children are concerned, the exodus from agriculture has very little reference to sex selection, except only in case of unskilled labor and the professional occupations.

Table 110. Percentage Distribution of Children of Farm Operators According to Present Occupational Classification

Present occupational classification of children*	Percent of male children			Percent of female children		
	Total male children	Married all ages	Unmarried 21 years of age and over	Total female children	Married all ages	Unmarried 18 years of age and over
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agricultural	73.1	64.8	83.3	65.6	64.1	69.9
Unskilled	8.9	10.6	5.8	4.3	5.1	1.9
Semi-skilled	6.1	8.9	2.6	7.5	8.8	3.9
Skilled	1.4	1.7	1.0	.7	1.0	0.0
Sales	1.4	1.3	1.6	2.3	2.7	1.0
Clerical	2.3	3.0	1.6	1.5	.7	3.9
Managerial	1.2	1.7	.5	.7	1.0	0.0
Business	1.4	2.1	.5	4.0	5.4	0.0
Professional	3.3	4.6	1.6	10.1	7.8	16.5
Miscellaneous	.9	1.3	.5	3.3	3.4	2.9

*All footnotes to Table 109 are applicable here also.

Taking unmarried male children 21 years of age or over and unmarried females 18 years of age or over, there is evidence of sex selection with reference to occupations. In these groups 83.3 percent of the males as compared with 69.9 percent of the females remained on the farm at the time of the survey. In both cases these were almost entirely children who had never left home. There was only one case of an unmarried child who lived

at the home of his parents but who worked in non-agricultural employment. This was the son of a tenant farmer who was employed as a mechanic at a garage in a nearby village. There were two unmarried males, likewise sons of tenant farmers, who worked away from home regularly as farm laborers. In all other cases all unmarried children in agriculture were still living at home, and all who were in non-agricultural occupations were living as well as working away from home.

Incidentally, these facts suggest two generalizations regarding the agricultural community as a place for the absorption of the unattached portion of the farm population. First, for those who prefer to work as farmers, the parental homestead offers the most convenient and most likely place for beginning. It is conceded that family status is virtually indispensable in agriculture. Such an arrangement provides both an occupation and an opportunity to remain a part of a definitely constituted family to those who, by reason of immaturity, lack of resources, or for any other reason, cannot establish families of their own for the time being. Second, the farm community proper offers no opportunity for the youth who would enter non-agricultural occupations. This applies to both male and female children. A further inference is that there is a better opportunity for male than for female children to remain at the home farm and enjoy a semblance of economic independence. Female children who remain in agriculture when they arrive at maturity have one of three alternatives, either they must stay at home as dependents in the parental family or they must marry. Otherwise, they must leave home entirely and find work in the villages, towns, and cities. The alternative opportunities for female labor on the farm are limited almost entirely either to the almost sequestered obscurity of dependent children doing assigned menial tasks in the homes of their

parents without pecuniary remuneration or to the roles of housewives to other farmers. It is, doubtless, because of these conditions that young farm women leave the family home at earlier ages and in larger proportions than the young men.

There is still another powerful factor in the determining of whether or not young women will remain at home for an appreciable time after coming of age. That is the sex distribution of the population. The families of this study had 185.4 unmarried male children 21 years of age and over for each 100 females 18 years of age or older. Of the total adult children, both married and unmarried, there were 107.3 males to 100 females, and among the married children only there were 80.0 males to 100 females. This shows the intensity of the demand for farm-reared girls in marriage. Not only are there almost two marriageable males for every female of marriageable age and condition, but one farm girl out of five who marries imports her husband from some other community. The tension thus created in agricultural society because of a scarcity of marriageable women is sufficiently great to impose an enormous pressure of public opinion and disapproval upon the unmarried female who remains at home ostensibly idle. Either she must marry or take flight to the city in search of employment if she would escape the discomforts imposed upon her by a hostile group attitude. Admittedly, this is a speculation, but one which is supportable on the basis of limited factual data, an abundance of personal observation, and the consensus of the judgments of historians, ecclesiasts, social workers, jurists, investigators and even the laity.

Now, to return to the direct implications of the data in Table 110, it will be seen that 35.9 percent of the married as compared with 30.1 percent of the unmarried female children have left agriculture. Also it

is shown that 35.2 percent of the married as compared with only 16.7 percent of the unmarried males have gone into non-agricultural work. This suggests that marital and occupational selection are coordinate variables at least to a limited extent. In the unmarried population, agriculture and unskilled labor are more selective of males than of females, while semi-skilled labor, clerical work, and the professions are more selective of females. However, these same occupations show differences in sex selection among the married children, but there are considerable variations in degree. For example, there were relatively ten times as many unmarried females as males in the professional class, while in the married group there were only a little more than twice as many females as males in proportion to numbers. This is explained primarily because of the frequency with which farm reared girls enter school-teaching. About three and one-half times as many unmarried males as females were in the unskilled labor group, while in the married samples there were approximately twice as many males as females on a relative basis.

In this connection, the tentative conclusions are: First, that females leave agriculture in greater proportions than males. This agrees with all the principal studies at this point from Ravenstein's investigation in 1885 to the present. Second, in the bulk of non-agricultural occupations, there is only a chance factor in sex selection. Third, the principal occupations which compete for the services of farm emigrants are the low grades of unskilled and semi-skilled labor on the one extreme and the professions on the other. This is in substantial agreement with the studies on rural-urban migration made by Zimmerman and his associates along with other students during 1926 and several

immediately successive years, as well as other studies conducted both before and after.[1]

4. Tenure Status as a Factor in Occupational Selection.

In many of the studies cited, the preponderance of evidence seems to show that agriculture attracts the means and non-agricultural industries the extremes of the farm youth. By this is meant that those of the lower socio-economic levels as well as those of the highest migrate to the cities in greater proportions than those of intermediate social and economic status. Table 111 has been constructed so as to show the comparative occupational selection for the children of owner and tenant families.

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[1]See Carle C. Zimmerman, "The Migration to Towns and Cities," Amer. Jour. Sociol., XXXII, Nov., 1926; Second paper, Amer. Jour. Sociol., XXXIII, July, 1927; Third paper written with C. D. Duncan and Fred C. Frey, Amer. Jour. Sociol., XXXIII, Sept., 1927; Fourth paper written with C. D. Duncan, Jour. Farm Econ., X, Oct., 1928; Fifth paper written with T. Lynn Smith, Amer. Jour. Sociol., XXXVI, July, 1930; Sixth paper written with John J. Corson III, Social Forces, VIII, March, 1930. See other studies on this general problem by Wilson Gee, "A Qualitative Study of Depopulation in a Single Township, 1900-1930," Amer. Jour. Sociol., Sept., 1933, published also as The Qualitative Nature of Rural Depopulation in Santuc Township, South Carolina, 1900-1930. Clemson: Clemson College Agric. Exper. Sta. Bul. 287, Jan., 1933; Conrad Taeuber, Migration to and from German Cities, 1902-29, Instituto Poligrafico dello State, Roma, Anno X, 1932 (Abstract of a Ph.D. Thesis at the University of Minnesota, 1931); W. A. Anderson, Mobility of Rural Families, I. Ithaca: Cornell Univ. Agric. Exper. Sta. Bul. 607, June, 1934; A. A. Smick and F. R. Yoder, A Study of Farm Migration in Selected Communities in the State of Washington. Pullman: Wash. Agric. Exper. Sta. Bul. 233, June, 1929; W. A. Anderson, Rural-Urban Migration in North Carolina, 1920-1930. Raleigh: N. Car. Agric. Exper. Sta. Bul. 295, Feb., 1934; W. A. Anderson, Migrations of Sons and Daughters of White Farmers in Wake County, 1929. Raleigh: N. Car. Agric. Exper. Sta. Bul. 275, June, 1930; E. J. Ravenstein, "The Laws of Migration," Jour. of the Royal Statistical Society, XLVIII, Jan., 1885; O. D. Duncan and J. T. Sanders, A Study of Certain Economic Factors in Relation to Social Life among Oklahoma Cotton Farmers. Stillwater: Okla. Agric. Exper. Sta. Bul. 211, April, 1933.

Table 111. Distribution of Male and Female Children of Owner and Tenant Farm Families According to Present Occupational Classification of Children

Present occupational classification of children*	Number of children				Percent of children			
	Males		Females		Males		Females	
	Owners	Tenants	Owners	Tenants	Owners	Tenants	Owners	Tenants
All occupations	515	114	289	109	100.0	100.0	100.0	100.0
Agriculture	231	81	190	71	73.8	71.0	65.7	65.1
Unskilled	20	18	8	9	6.4	15.8	2.8	8.3
Semi-skilled	21	5	19	11	6.7	4.3	6.6	10.1
Skilled	3	3	3	0	1.0	2.6	1.0	---
Sales	4	2	6	3	1.2	1.8	2.1	2.7
Clerical	9	1	2	4	2.9	.9	.7	3.7
Managerial	4	1	2	1	1.3	.9	.7	.9
Business	6	0	16	0	1.9	---	5.5	---
Professional	12	2	36	4	3.8	1.8	12.5	3.7
Miscellaneous	3	1	7	6	1.0	.9	2.4	5.5

*See footnotes to Table 109.

The data of this table show that there were 2.8 percent more male children of owner than of tenant families who remained in agriculture, while for female children there were only .6 percent more of the owner than of tenant children who remained on the farm. Because of the smallness, both of the samples and of the variations as to proportions of each sex who were employed in agriculture, it is unwise to draw a definite conclusion with reference to the influence of tenure status. The principle of inverse selectivity and social status may apply in a small degree with reference to males, but it is doubtful for females.

The significance of tenure status, as such, seems to have primary reference to the kind of occupations into which the children were absorbed. For male children of owners, unskilled and semi-skilled occupations offer the most serious competition with agriculture, but sales, clerical, managerial, business and professional employment taken together about equal the manual occupations in their attractions. Unskilled labor absorbed

approximately half of the sons of tenants who worked outside of agriculture, and all grades of manual labor together took up almost four-fifths of the male tenant emigrants. The daughters of owner farmers were attracted most heavily toward business and professional occupations when they left agriculture. The manual occupations were of secondary importance and sales, managerial, and clerical work of only minor significance in providing employment for owner daughters. The daughters of tenant farmers seemed to follow their brothers into the urban laboring classes but in somewhat smaller proportions on the whole. Apparently, the daughter of a tenant farmer has approximately three chances of entering sales, clerical and managerial occupations, and two chances of going into a profession for one chance of her brother.

The influence of tenure status, apart from the sex of children involved and from the distribution of those children among the non-agricultural occupations they enter, cannot be said to have an important bearing upon occupational selection. Disregarding sex distribution, 29.9 percent of the owner children and 31.4 percent of all tenant children employed for themselves, were in non-agricultural occupations. This difference is too small to justify any definite assertion as to whether on the whole the children of owner or tenant farmers in this study were more easily attracted away from agriculture.

5. Educational and Occupational Selection Studied Coordinately.

Admittedly the category of occupations is somewhat arbitrary and is far from perfect, while the amount of schooling on the other hand is stated definitely in terms of grades and years completed, but without qualification as to what part of a school grade a child was able to complete in any one year. In spite of any defects of the educational factor, it at

least is standard as to nomenclature. There is no invariable classification of all occupations and trades. Even in the federal census, the same general headings may prevail for a century or longer, but the types of employed persons listed under them often vary materially between two successive census enumerations. This is an obstacle which scarcely can be overcome in the present study. The occupational groupings used are consistent, once a classification has been determined. Other than that, it is likely that numerous sources of error have been operative.

Keeping in mind the recognized limitations of the occupational category, the children were distributed by single years or grades of schooling completed, and were kept separate as to sex, according to their occupational status at the time the survey was made. From these tabulations the average grades completed by children of each sex were computed for each occupational group. The results of these computations are given in Table 112.

Table 112. Average Grade, or Number of Years of Schooling, Completed by Adult Children of Farm Families According to Present Occupational Classification of Children*

Occupational group	Average grade completed by children choosing occupation	
	Male children	Female children
All occupations**	10.2 ± 2.8	10.6 ± 2.8
Agriculture	9.7	10.0
Unskilled	9.7	9.6
Semi-skilled	12.8	9.9
Skilled	10.2	9.7
Sales	10.0	11.7
Clerical	12.9	11.7
Managerial	9.6	13.3
Business	11.0	11.9
Professional	15.1	13.9
Miscellaneous	11.3	10.3

*Numbers of children in this table from which average amounts of schooling were computed are the same as are given for the separate totals of males and females respectively in Table 109.

**The averages here do not necessarily agree with the average grade finished by all children who have finished school because this table omits males under 21 and females under 18 years of age in all cases in which such children have not definitely entered an occupational group of their own.

From Table III, it is obvious that the sequence followed regularly in the occupational category does not indicate successive gradations of education for either male or female children. This may be either due to the limitations of the classification itself which have been referred to above, or to an actual lack of selectivity of occupations as to education or to both factors together. In all probability some error arises when the many hundreds of types of employment which are possible are reduced to nine or ten categories. However, the necessity of putting data on occupations into a manageable form is obvious. Even when liberal mental allowances are made for errors in classifying the data, it seems tenable to conclude that occupations are definitely selective of education, but not necessarily in the order which generally may be expected. It is apparent also that occupations do not select the female emigrants from the farms on the same basis as for males. This is probably due to the influence of the factor of marriage upon the educational distributions of females in various occupational conditions. However, there is the same, or even a greater, tendency for non-agricultural occupations to take away the female children who have had superior educational advantages in preference to those with limited education that has been found for males, as will be seen a little later.

In Chapter VII of this study, under the topic of education as a factor in the selection of mates, a coefficient of correlation between the education of husbands and wives as variables was computed in which it was found for the original family heads that $r = .572 \pm .029$. Since other studies made by the writer support this finding, it is considered significant. This being true, there is an important inference that may be drawn from the data given here, namely, in certain occupational groups,

the managerial, sales, skilled labor, and business, the daughters of farmers married men who had higher amounts of education than had the girls' brothers who went into these same occupations. On the other hand, following the same basis of reasoning, the male children who entered semi-skilled, clerical, and professional occupations had completed higher grades in school than either their sisters going into these occupations or who married men already in them. It is only in agriculture that the difference between the average grade completed by male and female children respectively were so small as to be inconsequential.

Thinking in terms of the relation of occupation to social status, it appears that the education of male children is relatively more significant than that of females. Otherwise, it is to be expected that occupational selection would be reflected in the same order, with possible minor variations in degree, for males as for females. It is significant that all occupations for which the average education of males was either the same or less than the average for all males, were those in which there is no known or definitely implied tangible relation between academic education quantitatively expressed and the minimum preparation needed for the pursuit of the occupation, assuming that a fourth grade education was required by all.

In Table 113, the simple percentage distributions of male and female children are given for both agricultural and all non-agricultural occupations combined. These distributions are rather characteristic of those in Tables 103 and 104. The significant characteristics of this table are that agriculture retained all children of both sexes who had received less than a sixth grade education, and larger proportions of all children who did not go beyond high school than entered non-agricultural occupations. Likewise, non-agricultural occupations absorbed much larger pro-

portions of both male and female children who either completed any amount of college work or who completed a post graduate course.

Table 113. Percentage Distributions of Occupied Children of Farm Families According to Last Grade Completed in School

Grades completed in school	Percent of males completing specified grade only		Percent of females completing specified grade only	
	Agricultural occupations	Non-agricultural occupations	Agricultural occupations	Non-agricultural occupations
Total	100.0	100.0	100.0	100.0
4	1.6	---	.4	---
5	1.3	---	.4	---
6	1.6	.9	2.3	---
7	3.2	---	4.6	1.5
8	43.6	35.6	36.8	29.9
9	6.4	5.2	4.2	3.6
10	8.3	7.8	7.2	4.4
11	1.3	1.7	3.1	2.2
12	21.5	19.1	30.3	21.2
13	2.6	6.1	3.1	6.6
14	3.5	6.1	5.0	7.3
15	1.6	3.5	1.5	5.1
16	3.5	12.2	1.1	15.3
17	---	.9	---	1.5
18	---	---	---	.7
19	---	.9	---	.7

The simple percentages shown in Table 112 are given in cumulative form in Table 114. In this fashion it is possible to eliminate some of the irregularities that occur in Table 113 without doing violence of any kind to the data.

From the data as shown in Table 114, it is possible to derive four major comparisons as to the coordinate selectivity of occupations and education upon the farm population. First, agriculture retains a disproportionately large share of the male youth with meager educational equipment while non-agricultural occupations attract the preponderance of those who went beyond high school. Second, the farm likewise retains a dispro-

portionately large number of female children with limited education while non-agricultural occupations select even larger proportions of those who went to high school and college than is true of males. Third, there is a small difference as to education for males and females who were yet on the farm. Fourth, it is evident that the farm holds the male youth at both extremes of the educational ladder with a firmer grip than it exerts upon the female youth of similar position. Part of this is because there are relatively fewer farm girls than boys who quit school in the lower grades and also because home making is the only form of employment which competes greatly for young women on the farm regardless of education, and those who are interested in professional pursuits must leave the farm to find that kind of opportunities.

Table 114. Cumulative Percentage Distributions of Occupied Children of Farm Families According to Last Grade Completed in School

Grades completed in school	Cumulative percentages of males completing grade		Cumulative percentages of females completing grade	
	Agricultural occupations	Non-agricultural occupations	Agricultural occupations	Non-agricultural occupations
4	100.0	100.0	100.0	100.0
5	98.4	100.0	99.6	100.0
6	97.1	100.0	99.2	100.0
7	95.5	99.1	96.9	100.0
8	92.3	99.1	92.3	98.5
9	48.7	63.5	55.5	68.6
10	42.3	58.3	51.3	65.0
11	34.0	50.5	44.1	60.6
12	32.7	48.8	41.0	58.0
13	11.2	29.7	10.7	37.2
14	8.6	23.6	7.6	30.6
15	5.1	17.5	2.6	23.3
16	3.5	14.0	1.1	18.2
17	---	1.8	---	2.9
18	---	.9	---	1.4
19	---	.9	---	.7

What these data show is that for all children whose occupational status was determinable, those of each sex who left the farm consistently had gone farther in school than those who remained in agriculture. This is a form of cultural selection. Only in so far as there may be a direct correlation between formal education and innate ability, which this study has no way of showing, can it be said that the selection here evidenced tends to drain off the better stocks of the farm population. However, the writer does not deny the possibility, even the probability, that such a selection has taken place.

The data show further that the disparities in formal education between the sexes are relatively insignificant for those who remained on the farm, but they are perceptibly greater for those who migrated. According to the data presented, it appears that, while female children tend to leave the farm in greater proportions than males, female children on the average require longer training in school than males in order to enable them to find a foothold off the farm. Probably this assumption is based upon a somewhat spurious association of facts, for whether they leave the farm or not, female children persist in going to school longer than males as a general rule. However, the lower wages paid female labor in comparison with wages for males doing similar work, and probably the greater limitation upon occupational choices for females than for males, would tend to cause the females who left the farms to seek longer preliminary training than is common among male children before leaving home.

There are notable exceptions to this statement above. In the semi-skilled and skilled trades, clerical, and professional occupations, the amounts of schooling received by male children were greater than for females entering similar occupational status. Part of this difference

arises from the greater ability of the female than of the male to make use of marriage as a means of vertical selection in occupations. Also, of the children who remained on the farm, there were slightly higher proportions of males than of females on all grade levels from high school graduation through college. Although these differences affect only a very small proportion of the farm population, they suggest a form of social selection which has great potential consequences. It further complicates the problem of marriage, for one thing. There are already nearly two marriageable males for each available female in the farm population. Since, as has been shown, there is a high degree of marital selection on the basis of education, this may mean that the male population in order to obtain wives will have to marry women who otherwise might have continued longer in school. It has been shown that the chances are about 80 in 100 that both the farmer and his wife were farm bred. This is probably one reason why only a low coefficient of correlation was found to exist between education and age at marriage in the farm population.

6. Relation of Tenure Status to Educational and Occupational Selection of Children.

From Table 111 it may be seen that the absolute numbers of tenant children who had chosen occupations were too small to admit of reliability in the averages computed for grades finished by those going into most urban occupations. For that reason the occupational classifications in Table 115 have been condensed. The purpose of this table is to show whether or not in the same occupational groupings owner children of the same sex showed indications of greater selectivity as to education than tenant children, and in what direction the selectivity, if any, took place.

Table 115. Average Grade Completed in School by Employed Male and Female Children of Owner and Tenant Farm Families According to Occupational Classification of Children

Occupational classification and sex of children	Average grade in school finished by employed children	
	Owner children	Tenant children
All occupations*		
Males	10.1 ± 2.9	9.5 ± 2.4
Females	10.7 ± 2.8	9.9 ± 2.8
Agriculture		
Males	9.8 ± 2.8	9.2 ± 2.3
Females	10.2 ± 2.3	9.4 ± 2.4
Labor, all grades**		
Males	10.2 ± 2.4	10.0 ± 2.7
Females	9.6 ± 2.1	10.1 ± 2.5
Business, all types***		
Males	11.1 ± 2.7	11.8 ± 2.3
Females	12.1 ± 2.6	11.8 ± 3.1
Professional		
Males	15.4 ± 2.6	13.0 ± 1.0
Females	12.9 ± 3.0	12.5 ± 2.6

*Miscellaneous and unclassifiable left out in this table. Because of this the grand averages were not combined to agree exactly with those in Table 112.

**Includes unskilled, semi-skilled and skilled labor.

***Includes clerical, sales, managerial and proprietorial businesses. The occupational classifications in this table are condensed because of the smallness of the numbers in the more minute divisions of the tenant population.

In general, the data in Table 115 show that owner children had gone somewhat further in school than those of tenant families. It will be recalled that in earlier portions of this study it was found that tenant operators had gone as far, sometimes further, in school as owners. Also, it was found that the progress of young tenant children in school was practically equal to that of owner children, except that tenants showed greater variation and a wider range in distribution. The question may be

asked, in view of these conditions, how can the fact that tenant children already in occupations of their own do not show as high grade averages as owner children of similar occupational status be explained when this is a seeming contradiction in the data?

The explanation of the foregoing phenomenon is based on several mitigating factors. In the first place, it will be recalled that many of the tenant operators are either sons, sons-in-law, or other relatives of their landlords, which means that their origin was probably comparatively close to the land owning population. Second, the improvement of educational opportunities in Oklahoma has increased the average educational attainments of all the younger farm population in comparison with the older. In the third place, it was learned that the bulk of all tenant farmers are likely to become owners if they remain on the farm and survive the age of 50 years. Fourth, it is mostly the improvident, inert, and the shiftless class of tenant farmers, with a few exceptions, who remain tenants until their families are full grown. What has happened is that the adult-employed children of families still classed as tenants come mostly from the residue of the tenant population who have been eliminated over and over in the many processes of social and economic selection which are continually operative in the farm population. Therefore, most of the tenant children who have reached maturity and have chosen occupations for themselves while their parents were still tenants have risen from the classes in which the cultural advancement was not only more retarded than for the general farm population but also probably even more backward than for the average of the tenant classes themselves. This situation does not present an enigma, but doubtless is simply a case of more minute socio-economic selection than has been discussed adequately in preceding parts of this study.

Among those remaining in agriculture, both male and female children of owner farmers had finished higher grades in school than children of tenant farmers of corresponding sex. The same comparison applies to those engaged in professions, but not consistently in the intermediate occupational groups in which close distinctions can be drawn only arbitrarily and with the greatest of difficulty.

In the groupings of the occupations which were made in Table 115, the male children of both tenant and owner families show progressive increases in the amount of education received in the different gradations from agriculture to the professions, with the averages for owner children slightly higher than for those of tenants in most cases. For female children the same general tendencies are indicated, but do not prevail with the same regularity and consistency as for males.

The greatest differences for male children occur in the professional group in which the average amount of schooling received by owners' sons was 15.4 $\pm$ 2.5 years as compared with 13.0 $\pm$ 1.0 years for sons of tenants. This suggests that in the fields requiring the greatest preliminary training and the most minute specialization, the son of an owner farmer is at an advantage, at least economically and culturally, over the tenant's son. In other words, it is perhaps defensible to state that the most tangible evidences of selection between owner and tenant children will be found in the occupations which presuppose the most rigid tests and previous preparation. This applies with greater emphasis to male than to female children because the factor of marriage is more important in determining the occupational status of women than of men, particularly in this group because of the manner in which the original data were assembled.

In the laboring occupations and in various phases of commercial employment, there is little if any difference between owner and tenant chil-

dren in respect to education. It appears likely that either tenant or owner children in these classes may have gone fartherest in school. This is probably because the owner children with the greatest amounts of schooling avoid these occupations as being relatively unattractive while for tenants they are more attractive for not requiring as much schooling as the professions, and probably they represent comparatively as much advancement for them as do the professions for owner children.

Judging by the average amounts of schooling received, tenant children who enter the professions apparently go into the minor professions mostly, while at least a few of the owner children take on the highly learned professions. For example, none of the tenant children studied had taken any post-graduate work in a university and less than four percent had finished college, while about eight percent of all owner children in the sample had finished four or more years of college work.

In order to add emphasis to what has been said relative to the coordinate selectivity of occupational choices and education of children, the following rough comparisons are given:

Sex and tenure status of employed children	Percent of employed children engaged in agriculture	
	High school and college graduates	Non-graduates of high schools
Male children		
Owners	67.2	79.7
Tenants	64.5	76.8
Female children		
Owners	59.3	76.4
Tenants	64.8	72.3

The figures shown here indicate quite clearly that there is a wide discrepancy in occupational selection on the basis of education. The agricultural population is replenished in far greater proportions from children whose attainments in school fell in the lower half of the educational

ladder than from those who reached the upper half. While the majority of all employed children remained on the farm, the margins were the smallest for those who went to school the most. Data like these speak for themselves. But if college graduates are singled out from the upper extreme, it is found that 42.3 percent of the males and only 11.5 percent of the females in that group returned to the farm. This is enough to bear out the contention that on the whole the return to agriculture grows smaller as education proceeds upward to more advanced levels. In other words, the farm loses its attraction for its own youth in proportion as they reach the upper extreme of the educational pyramid.

7. Inferences from the Study of Occupational Selection.

There are evidences in this study of cultural and economic selection in reference to both education and occupations. Also, educational and occupational selection are to some extent in functional relation the one toward the other. The type of selection about which the least knowledge exists is bio-social. Unfortunately, the investigation adds precisely nothing to this field. This is an admitted fact, an asserted weakness of the ordinary field survey, for it gives the investigator little understanding and no intimate factual information except what the subjects say about themselves. Even such data as are divulged are not always perfectly reliable. For these reasons, it seems necessary to employ laboratory techniques in order to approach the more tangible qualitative characteristics of the population. Therefore, in the immediately foregoing discussion no implication of biological, hereditary, or innate factors in the types of selection studied is made. It is believed that such things are of vast importance even in this study, but it can be only regretted that they have completely eluded all comprehension thus far.

To recognize the limitations of the analysis of occupational selection in this study is not to deny the value of the findings which have been made. Sifting the data thoroughly, it is worthy of note that using education as a measure, there is a tendency for the less highly cultured elements of the farm youth to remain in agriculture. This is a marked tendency which has been observed. The average grades finished by both owner and tenant sons who began farming as an occupation were lower than for those who went into any other broad occupational class, as given in Table 115. Not only that, but also it may be said that the farther the occupational classification was from agriculture, the higher was the educational attainment of those going into it.

Superficially, it seems that the selection of female children through the channels of education and occupations is less marked than for males. Careful study of that data reveals that such is not the case. Daughters of owner farmers who graduated from high school and college exhibited a decidedly greater tendency to go into non-agricultural occupations than male children of similar education from either tenure group. Daughters of tenant farmers who were graduates of high schools and colleges left the farm in greater proportions than the sons of owners and in about the same proportions as the sons of tenant farmers of similar educational advantages. The reason why education appears more selective for males than for females is that through the channel of marriage the regularity of distribution of female children into occupational groups is broken down, and the order of occupational selection for female children is not the same as for males.

This portion of the study lends only mild support to the theory that the means of the population are attracted to agriculture if expressed as a blanket statement. Tenant children did leave the farms a little more

often than owner children. It may be said that approximately 35 percent of the married children in this study had left the farm, while only 30.1 percent of the unmarried female children 18 years of age or over and 16.7 percent of the unmarried males 21 years of age and over had gone into non-agricultural work. From all indications, there were about five percent of the unmarried daughters and about 18 percent of the unmarried sons who could be counted upon as probable emigrants from the farm. In all probability the incidence of relatively more unmarried than of married children of both sexes in agriculture was due primarily to age differences, and secondarily to the fact that the rapid city-ward migration of farm youth which had characterized the last decade before the depression had been definitely and effectively checked by 1933. For this reason there was a concentration of young people on the farms at the time of the survey which was unduly heavy.

CHAPTER XII

FACTORS RELATING TO SOCIO-RELIGIOUS LIFE OF THE FARM FAMILY

1. Statement of the Problem.

This part of the study is an effort to determine if there is any definite relationship between membership in churches and socio-economic stratification. No attempt is made to distinguish between different denominations and faiths. From a sociological standpoint differences between religious denominations may be important in relation to psycho-social adjustments of people, but a study of these differences cannot be undertaken here. There are evidences that in relation to the movements of suicides, divorces, and perhaps other social phenomena there are distinct differentiations between various religious sects, especially if the classifications are very broad, such as Protestants, Roman Catholics, Jews, or non-believers. However, if nomenclature as inclusive as these terms be used, the religious description of the Oklahoma farm population will become so highly homogeneous that it will fall almost entirely into two classifications, the Protestant church members on the one hand, and non-church members with protestant inclinations on the other. If church preferences of non-members are stated they will assume practically the same distribution as among the population who are church members.

Furthermore, an effort to make discriminations between or evaluations of different religious faiths is likely to become heavily clouded with many uncertainties and overshadowed with prejudices. The value of one creed in preference to another is a matter to be determined by personal choices, beliefs, and values, whether they appear to have been

objectively or subjectively determined in the minds of outsiders. For this study, the matter of vital concern is that any concrete manifestation of religious behavior represents an individual accommodation to a group behavior pattern, and in degree only is a form of adaptation and acculturation which signifies a conformity of the individual with definitely recognized group sanctions. In the eyes of science, therefore, modes of baptism, sacrimental observances, and articles or confessions of faith are respectively responses of the same kind to similar stimuli, regardless of slight variations as to the forms of manifestation.

The social significance of church membership lies in two fundamental facts. First, the endorsement and acceptance of a religious faith means that the individual has become identified with a distinct segment of human society, rather than remaining apart in a rather inchoate agglomeration. Second, organized religion, consciously or unconsciously to every individual, is a channel, an agent, a propelling influence, a modus operandi, in social circulation or vertical mobility. Even though a given religious faith may not contribute material wealth, political power, or social prominence to its adherents, it confers upon them definite enfranchisements, immunities, and psychic remunerations in return for the obligations, sacrifices, privations, and restrictions it imposes upon them.[1]

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[1] For more adequate discussion of these points see Pitirim Sorokin, Social Mobility. New York: Harper and Brothers, 1927, pp. 164-181; 182-211; Joyce O. Hertzler, Social Institutions. New York: McGraw-Hill Book Co., 1929, pp. 57-58; 101-102; Floyd H. Allport, Social Psychology. Boston: Houghton Mifflin Co., 1924, pp. 404-407; Edward Alsworth Ross, Social Control. New York: Macmillan Co., 1924, pp. 196-217; Charles H. Judd, The Psychology of Social Institutions. New York: Macmillan Co., 1927, pp. 268-274; L. Von Wiese and Howard Becker, Systematic Sociology. New York: John Wiley and Sons, 1932, pp. 613-617; Robert E. Park and Ernest W. Burgess, Introduction to the Science of Sociology. Chicago: University of Chicago Press, 1924, pp. 846-848, 787-788. These are only

It is recognized that membership in purposive religious organizations and the exhibition of religious behavior are not always one and the same thing. By no means do churches contain all the religiously-minded people. Nor does it necessarily follow that all members of churches, even of the same denomination, are in complete agreement as to what constitutes the indispensable elements and functions of religion. One thing that must be kept in mind is that all census enumerations of religious bodies and practically all research in the field of religion show that church rolls are highly selective as to sex. There is usually both an absolute and a relative preponderance of females over males among church members.[2] This in itself suggests that external forms in which expressions of religious sentiments may take place do not follow the same avenues of escape in all people. There is no proof, and probably no way to prove, that the so-called "religious instinct" is more powerful and more insistent in women than in men. More likely, it is an indication that because of the natural division of labor between the sexes, and because of traditional differences of socio-economic status which in the past have tended to be more repressive in respect to females than to males, women more than men may have been constrained to find an outlet for their religious energies through organized channels more often than men.

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a few of the more familiar concise expositions of the sociological aspects of religion. These references are not cited as being authoritative researches into the nature and content of religion, but only as attempts to reduce to formal statements the psycho-social implications of religion.

[2]For verification of this point see United States Census of Religious Bodies. Washington: Government Printing Office, 1926; J. L. Hypes, A Study of Social Participation in a Rural New England Town, Columbia University Contributions to Education, No. 256; Otis Durant Duncan, "Relation of Tenure and Economic Status of Farmers to Church Membership," Social Forces, Vol. XI, 1933, pp. 541-547; Grace Fernandes, Church Activities of Farm Women and Their Families. Stillwater: Okla. Agric. Exper. Sta. Bull. 169, 1928, pp. 7-8; W. E. Garnett and A. C. Seymour, Membership Relations in Community Organization. Blacksburg: Va. Agric. Exper. Sta. Bull. 287, 1932, p. 22.

In the data which are to be presented immediately, it will be observed frequently that certain social and economic characteristics of the population seem to bear a rather close functional relationship to church membership, while in other cases no such association exists. Again, it will be seen that church membership may be socially selective among the original family heads, but not for their children. Also, the reverse may occur, and the same may be said with respect to opposite sexes. All in all, it may be said that membership in churches, like any other social phenomenon, is a resultant of numerous interacting influences which are combined in varying degrees of quality as well as being of different intensities in quantity in an individual as compared with another. Even when a few of the more obvious characteristics of the population are taken into account, there remain innumerable unascertainable factors which may be more potent determinants of religious behavior than those which are more conveniently discerned taken either separately or collectively. In reality, it is doubtful if an explanation of religious behavior can be given. What is more probable is that an investigator can only report findings apart from their true causal antecedents.

Throughout the presentation of the materials on this topic, the data have been kept separate on the basis of both the tenure status of the families and the sex of the population. Otherwise, it would not be possible to arrive at the very elementary conclusions which the information available seems to justify.

For the most part, this portion of the problem will concern itself with the changes which occur in the percentage of the population who were church members and in the sex ratios of the church members when the population is sorted as to age, size of farm operated, size of investment,

net worth, and education respectively. Obviously, there are many other independent factors which influence the population either one way or another in regard to church membership. Geographic isolation, cultural heritage, and neuro-psychic behavior patterns, or psychological types of personalities, and numerous qualitative characteristics of the population which were not considered in the survey may be more important than those which have been studied.

2. The Age and Sex Factors in Church Membership.

In studying the influence of age upon church membership, it was not possible to compare the family heads and their children on the same age scales because both the upper and the lower age limits are much higher for parents than for children. However, it is possible to observe the changes which occur in both groups with advancing age.[3] Apparently, there is no age in life at which all persons will be either church members or non-members. However, the general assumption of church men is that church membership is determined at rather early ages. The non-Catholic churches usually concede that inducing a person to join the church becomes a more difficult task as age increases, but they always find enough exceptions to the rule to justify them in their quest as long as a prospective convert may live.

The data in Table 116 show the number and percentage of church members for family heads of each sex by ten year age groups, separated as to tenure status and for the total sample.

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[3] In this study, the minimum age of children included is 15 years. This was in deference to the practice of the Federal census. Also it is arbitrarily assumed that prior to this age children are not likely to have exerted a great deal of personal responsibility in the matter of church affiliation. Some churches baptise or christen infants at as early as eight days of age, while others leave this rite to the discretion of the child. Denominations which practice infant baptism frequently observe the rites of confirmation at or near the beginning of puberty.

Table 116. Number and Percent of Farm Family Heads of Each Sex Who Were Church Members According to Tenure Status and Present Age Groupings

Age and tenure groups of family heads	Number of family heads		Number of family heads who were church members		Percent of family heads who were church members	
	Males	Females	Males	Females	Males	Females
Total	557	535	285	326	51.2	60.9
19 and below	--	2	--	1	--	50.0
20 to 29	58	87	27	44	46.6	50.6
30 to 39	126	134	54	72	42.9	53.7
40 to 49	133	132	62	84	46.6	63.6
50 to 59	103	109	63	79	61.2	72.5
60 to 69	91	57	51	34	56.0	59.6
70 and over	46	14	28	12	60.9	85.7
Owners	293	288	169	184	57.7	63.9
19 and below	--	--	--	--	--	--
20 to 29	7	16	3	6	42.9	37.5
30 to 39	37	48	20	27	54.1	56.2
40 to 49	65	82	33	53	50.8	64.6
50 to 59	68	79	46	58	67.6	73.4
60 to 69	73	50	41	29	56.2	58.0
70 and over	43	13	26	11	60.5	83.6
Tenants	264	247	116	142	43.9	57.5
19 and below	--	2	--	1	--	50.0
20 to 29	51	71	24	38	47.1	53.5
30 to 39	89	86	34	45	38.2	52.3
40 to 49	68	50	29	31	42.6	62.0
50 to 59	35	30	17	21	48.6	70.0
60 to 69	18	7	10	5	55.6	71.4
70 and over	3	1	2	1	66.7	100.0

In the first place, it may be said that farm tenancy is correlated negatively with the proportion of the farm population who are church members.[4] As in other data which have been studied, the figures in Table 116 show that 57.7 percent of the male and 63.9 percent of the female heads of owner families were church members as compared with 43.9 percent of the male and 57.5 percent of the female heads of tenant families. On the other hand, the closeness of the association between

[4]See Otis Durant Duncan, op. cit.; C. Horace Hamilton, The Role of the Church in Rural Community Life in Virginia. Blacksburg: Va. Agric. Exper. Sta. Bull. 267, pp. 24-25.

the age of farm operators and their tenure status, a point mentioned many times already, causes one to wonder if the relation between tenancy and church membership is not mostly incidental and nominal. Therefore, the data are sorted in a manner that permits comparisons of similar age groups (see Table 116). It will be noted also in Table 116 that for samples of sufficient size to admit of judgment, the percentages of tenants of either sex who were church members were not substantially lower than for owners of corresponding sex among the population who were of later middle age and older. Furthermore, this thesis could not claim support in communities such as the early American colonies and many contemporary settlements which were populated by religious enthusiasts, but which are typical of other contiguous territories in respect to farm tenancy. In other words, what these data show is that both farm tenancy and church membership are functionally related to the age of the population, tenancy decreasing, and church membership increasing, within limits of course, as the age of the population increases.

The uniformity with which church membership increases with the age of the population is not necessarily indicative that belonging to a church increases the longevity of life, although this may be the case. Incidentally, Landis believes that people who attend church regularly have much better health than those who do not. He contends also that church attendance declines with age.[5] His findings do not contradict what is said here. More than likely the religious urge is more or less active at all ages of life, and the older the population, other conditions being relatively the same, the greater is the exposure of the individual to the appeals of organized religion. To say more than this

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[5] See Judson Taylor Landis, Attitudes and Adjustments of Aged Rural People in Iowa, Unpublished (Ph.D. Thesis, Louisiana State University, 1940), pp. 206-218.

would be to engage in unfounded speculation.

Similarly Table 117 shows a highly uniform increase in church membership with increasing age of the children of the families studied. To be sure, the data show that owners' children become church members in greater proportions than those of tenants. But since owner operators are usually older than tenant operators, owner children are also older than tenant children. For the most part the proportions of older people who are church members are greater than for young people, as is shown in both Tables 116 and 117. However, the data are distributed rather erratically. At some age periods the percentages of church members among both owners and owners' children are higher than for tenants and their children. At other age periods the reverse is true. It is to be expected that as the age of the population increases, there will be larger numbers of tenants' children whose parents will become owners and increasing proportions of tenant children who will become church members until the maxima are reached. According to the data in Table 116, it appears that the maximum expectancy of church membership is around 60 percent for males and upward of 70 percent for females in the age groups ranging from fifty years upward.

In the farm population of Oklahoma generally, there is a predominance of males over females, and this has been characteristic of the State population as a whole from the beginning of settlement.[6] The only exceptions to this rule occur in the ages from 15 to 20 years in which there is a slight deficit of males. In Table 118, the number of males per 100 females in each age group of the general population and of church members is shown for the original family heads.

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[6]See Otis Durant Duncan, Population Trends in Oklahoma, p. 8.

Table 117. Number and Percent of Children of Farm Families 13 Years of Age and Over Who Were Church Members According to Age of Children and Tenure Status of Parents

Age and tenure groups of children	Number of children 13 years of age and over		Number of children who were church members		Percent of children who were church members	
	Males	Females	Males	Females	Males	Females
Total	642	553	234	244	36.4	44.1
13 to 18	158	138	41	38	25.9	27.5
19 to 24	166	123	60	57	32.3	46.3
25 to 30	117	127	48	60	41.0	47.2
31 to 36	87	84	37	46	42.5	54.8
37 and over	94	81	48	43	51.1	53.1
Owner children	433	381	167	183	38.6	48.0
13 to 18	78	69	18	19	23.1	27.5
19 to 24	118	76	40	41	53.9	53.9
25 to 30	82	90	56	48	43.9	53.3
31 to 36	75	72	32	37	43.7	51.4
37 and over	82	74	41	38	50.0	51.4
Tenant children	209	172	67	61	32.1	35.5
13 to 18	80	69	23	19	28.7	27.5
19 to 24	68	47	20	16	29.4	34.0
25 to 30	35	37	12	12	34.3	32.4
31 to 36	14	12	5	9	35.7	75.0
37 and over	12	7	7	5	58.3	71.4

In Table 118, it will be seen that there was an excess of males over females for the family heads surveyed. That is, there were more men than women farm operators in both tenure groups who were living alone and who had never married. The number of bachelors who farm by themselves is far greater than the number of spinsters both absolutely and relatively. This is due to two things. First, there is a scarcity of women, there being 180.3 marriageable men for each 100 marriageable women in the farm population in 1930 and probably a larger disparity since the depression began. Second, while farming is essentially a family occupation, it is easier for a single man to operate a farm than for a single woman. Even if the woman could do the heavier farm work or have it done satisfactorily, the mores of agricultural society are more hostile toward a woman's than toward a man's living alone.

Table 118. Number of Males Per 100 Females Among Family Heads for the General Population Sample and for Church Members According to Tenure and Age Groups

Age and tenure groups of family heads	Number of males per 100 females in total sample	Number of males per 100 females in church members	Deviations from expected ratios in church members
Total	104.1	87.4	-16.7
19 and below	---	---	---
20 to 29	66.7	61.4	- 5.3
30 to 39	94.8	75.0	-19.8
40 to 49	100.7	73.8	-26.9
50 to 59	94.5	79.7	-14.8
60 to 69	159.6	150.0	- 9.6
70 and over	328.6	233.3	-95.3
Owners	101.7	91.8	- 9.9
19 and below	---	---	---
20 to 29	43.7	50.0	+ 6.3
30 to 39	77.1	74.1	- 3.0
40 to 49	79.3	62.3	-17.0
50 to 59	87.3	79.3	- 8.0
60 to 69	146.0	175.9	+29.9
70 and over	330.8	236.4	-94.0
Tenants	106.9	81.7	-25.2
19 and below	---	---	---
20 to 29	71.8	63.2	- 8.6
30 to 39	103.5	75.6	-27.9
40 to 49	136.0	93.5	-42.5
50 to 59	116.7	81.0	-35.7
60 to 69	255.6	200.0	-55.6
70 and over	300.0	200.0	-100.0

As the data in Table 118 show, the preponderance of males among the total family heads was too small to account for the wide sex disparities that grow increasingly larger as age increases. This is because of the greater age of husbands than wives. It will be noted that there is a preponderance of females among the population below 40 to 50 years of age. In the owner population the selectivity of males according to age is more apparent than for tenants, even though the ratios for tenants were larger than for owners. In the owner group the selection is more regular and

the total dispersion is greater than for tenants.

The general rule is that the sex ratios in the total population show far greater masculinity than was found in the church member groups alone. In other words, this reaffirms the statement that women are more inclined toward church affiliations than men. However, new light is thrown upon this point if the ratios of males to females in different age groups of the church members are studied closely. While the tendency is for the male excess either to disappear or to be greatly reduced in the church member group as compared with the total, there is no regularity or rule by which this decline of males in relation to females can be predicted. It is not proportionate to the sex ratios in the various age groups of the general population, nor does it occur in any functional relation to the age of the population as does the proportion of church members. Often, as may be seen by referring again to Table 116, the sex ratios in the extreme age groups are only nominal because of the smallness of these samples.

Comparing these data for owners and tenants separately, it will be observed that the sex ratios show a significant difference for the two tenure groups, but not as great as the usual spread between different age groups of owners. The number of males per 100 females among owner church members was 10.1 greater than for tenants. This means that males in the tenant population joined churches less often than owners, if the age factor can be overlooked for the moment. But, it must be kept in mind that in the tenant sample there were 5.2 more males per 100 females than in the owner group in the original sample. Even though the proportions of husbands and wives joining churches were the same, this difference would cause it to appear that tenants were less inclined toward church membership than owner operators because of a probability that unmarried men, most of whom are

young, are less often members of churches than older married men regardless of tenure status.

In Table 119, a study has been made of the sex ratios of the children of the families surveyed with respect to age and church membership. The data shown in Table 119 are contradictory to those given in Table 118 in some measure at least. They indicate that in the younger generation there is as strong, if not a stronger, tendency for males as for females to become church members and that, relative to females, male children of tenant farmers have a greater disposition toward church membership than do the sons of owners. The reason for this is not apparent, but there seems generally to be a process of acculturation which has increased in its influence upon the population with the passing of time. It will be recalled that tenant farmers and younger persons in practically all classifications had gone to school more than the older ones of similar status. Even allowing for their youth, the sons of owner farmers had joined churches in about the same proportion with respect to their sisters as had the older men relative to their wives, and in the tenant group the sons had far surpassed their fathers in this regard, as well as the sons of owner farmers. The only definite conclusion which may be drawn from the data thus far is rather paradoxical. That is, the older the farm population of Oklahoma, the more youthful are its social characteristics and the more youthful the age of the population is the more mature are its social features. This is not a statement of absolutes, but facts seem to justify it in part. All it means is that the elders who lived in Oklahoma during the period of its social, or cultural, economic, and political infancy had the traits of the pioneer. They were sturdy, thrifty, and did their work with their hands, each a law unto himself. On the other hand, their children have schools,

churches, roads and all the advantages of the culture of the nation as a whole. Consequently, forms of social behavior which a few years ago were typical of Oklahoma farm people are now applicable to their children only in a remote sense.

Table 119. Number of Males Per 100 Females Among Children 13 Years of Age and Over in Farm Families for General Population and Church Members According to Tenure Status of Parental Family and Age of Children

Age and tenure groups of children	Number of males per 100 females among general sample of children	Number of males per 100 females among children who were church members	Deviations from expected ratios in church members
Total	116.1	95.9	-20.2
13 to 18	114.5	107.9	- 6.6
19 to 24	151.2	105.3	-45.9
25 to 30	96.1	80.0	-16.1
31 to 36	103.6	80.4	-23.2
37 and over	116.0	111.6	- 4.4
Owner children	113.7	91.3	-22.4
13 to 18	113.0	94.7	- 8.3
19 to 24	155.3	97.6	-57.7
25 to 30	91.1	75.0	-16.1
31 to 36	101.4	86.5	-14.9
37 and over	107.7	107.9	+ 4.2
Tenant children	121.5	109.8	-11.7
13 to 18	115.9	121.1	+ 5.2
19 to 24	144.7	125.0	-19.7
25 to 30	97.3	100.0	+ 2.7
31 to 36	116.7	55.6	-61.1
37 and over	171.4	140.0	-31.4

3. Relation of Size of Farm to Church Membership.

In this part of the study, the size of the farm refers to the parental farm unit, the farm operated by the original family head, and has no references to the farms to which adults may have gone. There are two reasons for this. First, it would have been impossible to have found out the size of farms occupied by children away from home, and many of these children

were not on farms. Second, it was desired to discover if in any way the general pattern of religious association which was laid in the original homes is carried over into the lives of the children born and reared in those homes. The size of farms occupied by families of a given type of farming area is one of the best indexes of the social and economic status of those families particularly if the amount of land occupied stands in any definite economic relationship to the number of persons per family.[7]

An attempt to discover the influence of the size of the original family farm upon church membership is made in Table 120, which is concerned with the family heads surveyed.

Except for farms of 160 to 239 acres in size which contained almost half of the farm families, the class intervals used give a fairly satisfactory division of the population. However, the 160 acre farm is very close to the modal farm in Oklahoma. Farms which are either appreciably larger or smaller than a quarter section very quickly take on the characteristics of exceptional cases, in most areas. Regardless of the significance of the size of farms as a factor in farm management and in other socio-economic relationships, it seems to have no relationship to church affiliation of farm operators. In the owner group, the farmers on the modal size farms showed the least inclination to church membership, but otherwise the data showed no definite tendencies. In the tenant class of male operators, there is less consistency than among owners, and for female

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[7] This point is developed in its purely economic aspect by F. W. Stephens and Emil Rauchenstein, Systems of Farming in Oklahoma. Stillwater: Okla. Agric. Exper. Sta. Bul. 199, April, 1931, pp. 22 ff. See also Henry C. Taylor, Agricultural Economics. New York: Macmillan Co., 1923, Ch. XIV; George F. Warren, Farm Management. New York: Macmillan Co., 1934, pp. 239 ff.; C. L. Holmes, Economics of Farm Organization and Management. Boston: D. C. Heath and Co., 1928, pp. 211 ff.

family heads of both tenure groups, the data, if any difference, were more erratic than for male heads.

Table 120. Number and Percent of Farm Family Heads of Each Sex Who Were Church Members According to Tenure Status and Size of Farm Operated

Size of farm and tenure groups	Number of family heads		Number of family heads who were church members		Percent church members were of total family heads	
	Males	Females	Males	Females	Males	Females
Total	557	535	285	326	51.2	60.9
Up to 159 acres	80	77	41	46	51.2	58.4
160 to 239 acres	260	248	127	152	48.8	61.3
240 to 319 acres	50	47	22	28	44.0	59.6
320 to 399 acres	93	89	55	58	59.1	65.2
400 and over	74	74	40	43	54.0	58.1
Owners	293	288	169	184	57.7	63.9
Up to 159 acres	32	31	19	18	59.4	58.1
160 to 239 acres	135	133	71	81	52.6	60.9
240 to 319 acres	26	25	15	16	57.7	64.0
320 to 399 acres	49	48	34	37	69.4	77.1
400 and over	51	51	30	32	58.8	62.7
Tenants	264	247	116	142	43.9	57.5
Up to 159 acres	48	46	22	27	45.8	58.7
160 to 239 acres	125	115	56	71	44.8	61.7
240 to 319 acres	24	22	7	12	29.2	54.5
320 to 399 acres	44	41	21	21	47.7	51.2
400 and over	23	23	10	11	43.5	47.8

If only two size intervals of farms are shown, those containing 239 acres or less and those having 240 acres or more, it will be seen that on the smaller sized farms, 53.3 percent of the male and 60.4 percent of the female heads of owner families were church members. On the farms of 240 acres and over 62.7 percent of the male and 68.5 percent of the female heads of families in the owner group were church members. For tenants on farms of 239 acres or less 45.1 percent of the male and 60.9 percent of the female family heads were church members, while on farms of 240 acres or more, 41.8 percent of the male and 51.2 percent of the female heads of families in the tenant population were church members.

Thus, it is perceivable at once that gradations in the size of farms as given in Table 120 are not uniformly selective, and that such selection as there may be does not apply in the same direction to both the tenant and the owner population. The gross effect of increasing the size of farms beyond the modal or average size in the owner population is to increase the proportion of church members, while for tenants the reverse is true.

There appears to be a more tangible association between the proclivities of children in respect to church membership and the size of farms on which they were reared than existed among their parents. Allowing for errors in sampling, it may be seen in Table 121 that the tendency is for the proportion of church members and total population to rise as the size of the farms increased. Probably this is partly due to a selection of older children by the larger farms. But it has been shown that for both parents and children age and membership in churches are positively and somewhat uniformly associated. That size of farms is not uniformly associated with church membership of parents seems certain, but that it is related positively to that of children on the same farm appears warranted.

By following the procedure of dividing farms into only two classes, those having 239 acres or less and those of 240 acres or more, the consistency of the statement that size of farms is related positively to the proportion of children who were church members is made plain. Among the children of owner families who resided on farms of 239 acres or less, 34.8 percent of the males and 40.5 percent of the females 13 years of age and over were church members, and the corresponding figures for tenant children were 22.6 percent for males and 35.6 percent for females. On

farms of 240 acres or more, 47.8 percent of the male and 57.8 percent of the female children 13 years of age and over in the owner population were church members, while similar figures for the tenant population give 39.7 percent for male and 35.2 percent for female children. The only reversal of the principle of a direct increase of church membership with increase in the size of farms on this basis was for the daughters of tenant farmers. But the differences are too small to be of consequence in that case.

Table 121. Number and Percent of Farm Children 13 Years of Age and Over Who Were Church Members for Each Sex According to Tenure Status and Size of Farm Operated by Farm Families

Size of farm and tenure groups	Number of children 13 years of age and over		Number of children who were church members		Percent church members were of total children	
	Males	Females	Males	Females	Males	Females
Total	642	553	234	244	36.4	44.1
Up to 159 acres	94	77	24	27	25.5	35.1
160 to 239	282	256	94	102	34.8	39.8
240 to 319	66	53	23	21	34.8	39.6
320 to 399	99	82	49	51	49.5	62.2
400 and over	101	85	40	43	39.6	50.6
Owner families	433	381	167	183	38.6	48.0
Up to 159 acres	41	39	15	19	36.6	48.7
160 to 239	189	176	65	68	34.4	38.6
240 to 319	47	38	16	16	34.0	42.1
320 to 399	69	56	37	42	53.6	73.0
400 and over	87	72	44	38	50.6	52.8
Tenant families	209	172	67	61	32.1	35.5
Up to 159 acres	53	38	9	8	17.0	21.0
160 to 239	93	80	33	34	35.5	42.5
240 to 319	19	15	7	5	36.8	33.3
320 to 399	30	26	12	9	40.0	34.6
400 and over	14	13	6	5	42.9	38.5

Table 122 shows the existing relation between sex ratios of the total population and of church members and the size of the farms studied. In Table 122, the selection in sex ratios in the church member population

tends to rise as the size of farms varies in either direction from the modal size. This is not invariable, but it seems to be the prevailing tendency. Probably a reason for this tendency is that the large sized farm is selective of families having larger numbers of male than of female children, at least this is true of the owner families, and probably would be true for tenants if the relative numbers of tenant farmers on large farms were not so small as to destroy the relationship in case it exists. It is obvious that the masculinity of church members on the larger tenant operated farms is high, even if the samples are small. Only in rather unusual cases does the proportion of masculinity in the church member population exceed that of the general population, and in still fewer cases does the ratio of males to females equal or exceed 100 in the church member sample. On large farms operated by tenants this happens to a more marked extent than elsewhere.

The relation of the size of the family farm to church membership, after all, may be incidental. In any case the existing relationship is one of differences between extremes mainly rather than a gradual uniform concomitance of the two factors. There is no known objective reason why being a church member would enable a farmer to manage a larger farm than he could manage if he had no church connections. On the other hand, a larger than average farm under a given type of agriculture ordinarily would be supposed to be indicative of a correspondingly higher economic status. It would mean, other factors remaining in the same proportions, that the family would have a larger income than families on small farms, and therefore, that the gratification of a larger number of cultural as well as physiological wants would be possible. It is likely then that in so far as the size of the farm is a direct influence in the effective

incomes of farm families, it may have a bearing upon the religious participation of the family.

Table 122. Number of Males Per 100 Females Among Family Heads and Children 15 Years of Age and Over for the General Population and for Church Members According to Tenure Status and Size of Farms Operated

Size of farm in acres and tenure groups	Number of males per 100 females in population sample		Number of males per 100 females for church members		Deviations from expected ratios for church members	
	Family heads	Children	Family heads	Children	Family heads	Children
Total	104.1	116.1	87.4	95.9	-16.7	-20.2
Up to 159	103.9	122.1	91.1	88.9	-12.8	-33.2
160 to 239	104.8	110.2	83.6	96.1	-21.2	-14.1
240 to 319	106.4	124.5	75.0	109.5	-31.4	-15.0
320 to 399	104.5	120.7	94.8	96.1	- 9.7	-24.6
400 and over	100.0	118.8	93.0	93.0	- 7.0	-25.8
Owners	101.7	113.7	91.8	91.3	- 9.9	-22.4
Up to 159	103.2	105.1	105.6	78.9	+ 2.4	-26.2
160 to 239	101.5	107.4	87.7	95.6	-13.8	-11.8
240 to 319	104.0	123.7	93.7	100.0	-10.3	-23.7
320 to 399	102.1	123.2	93.6	85.7	- 7.5	-37.5
400 and over	100.0	120.8	93.7	115.8	- 6.3	- 5.0
Tenants	106.9	121.5	81.7	109.8	-25.2	-11.7
Up to 159	104.3	139.5	81.5	112.5	-22.8	-27.0
160 to 239	108.7	116.2	78.9	97.1	-29.8	-19.1
240 to 319	109.1	126.7	58.3	140.0	-50.8	+13.3
320 to 399	107.3	115.4	100.0	133.3	- 7.3	+17.9
400 and over	100.0	107.7	90.9	120.0	- 9.1	+12.3

4. Size of Investments as a Factor in Church Membership.

The size of the investment is to a large extent only another aspect of the size of farms. To the extent that land values in a given area are uniform, and to the extent that similar amounts of money are invested in machinery, work stock, and farm improvements these two factors are synonymous. However, it often happens that two farmers having the same number of acres of land, even on adjoining farms, may derive their incomes from total investments of differing sizes. One may have only his land, and his improvements, implements, and other capital goods may be

poor, while the other may have the most up-to-date machinery, new improvements, and large non-farm investments from which he may derive supplementary revenues.[8] In this way there is reason enough to justify setting up the size of investments as a new independent variable. Furthermore, the size of the farm operated is not a satisfactory index of potential earning power for tenant farmers. The tenant may operate a huge outlay in land and capital of which he owns nothing, or he may have a relatively heavy investment in capital goods, but may run a comparatively small farm. It is necessary to study both the size of the farm and of the investment in order to avoid the danger of leaving out the influence of either one or the other upon the social life of the population.

In Table 125, the distribution of family heads according to the size of investments is shown. For the most part, there is a tendency for the data to vary toward extremes. This is due to the lack of symmetry in the distribution of the population, especially those with investments of $10,000 and larger. In reality the comparisons in the owner population must be made mainly between only two large investment groups, those with less than $10,000 investments and those with investments larger than $10,000. This is necessary in order to have samples of convenient size. It may be seen that investments are very closely associated with tenure status because of the influence of land in the total agricultural wealth. Of the farmers having investments of less than $2500, 33.5 percent were tenants, while 88.6 percent of those with

[8] In this respect the sociological viewpoint is at variance with that of farm management. At least one prominent school of thought in farm management considers the farm operated, itself as the unit, while the rural sociologist thinks of the human factor as being of primary importance and land and capital as of secondary consequence. It is recognized that in a purely technical sense there is at least partial justification for the contrary position.

investments of $10,000 and larger were owners. Throughout the sample the rule holds that the larger the investment the greater is the proportion of owners, and conversely the smaller the investment, the greater is the percent of tenants in the group.

Table 123. Number and Percent of Farm Family Heads of Each Sex Who Were Church Members According to Tenure and Size of Investment Operated

Size of investment and tenure groups	Number of family heads		Number of family heads who were church members		Percent of family heads who were church members	
	Males	Females	Males	Females	Males	Females
Total	557	535	285	326	51.2	60.9
Up to $2499	220	207	99	120	45.0	58.0
$2500 to 4999	69	65	27	32	39.1	50.8
$5000 to 7499	55	53	32	26	58.2	67.9
$7500 to 9999	70	69	34	39	48.6	56.5
$10,000 and over	143	143	93	99	65.0	69.2
Owners	293	288	169	184	57.7	63.9
Up to $2499	10	9	8	7	80.0	77.8
$2500 to 4999	28	26	11	12	39.3	46.1
$5000 to 7499	45	44	25	29	55.6	65.5
$7500 to 9999	69	68	33	38	47.8	55.9
$10,000 and over	141	141	92	98	65.2	69.5
Tenants	264	247	116	142	43.9	57.5
Up to $2499	210	198	91	113	43.3	57.1
$2500 to 4999	41	37	18	20	39.0	54.0
$5000 to 7499	10	9	7	7	70.0	77.8
$7500 to 9999	1	1	1	1	100.0	100.0
$10,000 and over	2	2	1	1	50.0	50.0

The comparisons of extremes in the investment classes are ultimately between owners and tenants. As the figures stand, they show that in the entire population there were 20.0 percent more of the male family heads who were church members in the $10,000 investment class than in the group below $2500, while in intermediate groups there is no definite selection. For female family heads in the whole sample the comparisons are less distinctive than for males. In other words, there are inadequate evidences to support any conclusive statement whatever as to the relation between

the size of investments as such and church membership of family heads except as between extremes. In the owner group with investments below $10,000, 50.7 percent of the male and 58.5 percent of the female family heads were church members, while for those with investments of $10,000 and larger, the corresponding figures were 65.2 percent for males and 69.4 percent for females. In the tenant population the distribution of investments does not justify a similar comparison.

Naturally, the distribution of children in the population is very similar to that of parents as may be seen from a comparison between Tables 123 and 124. Also the same fundamental limitations hold true for children as for parents. However, in the case of female children the proportions who were church members rise as the size of the investment increased. But with male children as with both parents there is simply an erratic fluctuation between the extremes.

Table 124. Number and Percent of Farm Children 13 Years of Age and Over for Each Sex Who Were Church Members According to Tenure Status and Size of Investment Operated by Paternal Family

Size of investment and tenure groups	Number of children 13 years of age and over		Number of children 13 years of age and over who were church members		Percent church members were of total children	
	Males	Females	Males	Females	Males	Females
Total	642	553	234	244	36.4	44.1
Up to $2499	188	155	53	55	28.2	35.5
$2500 to 4999	60	51	23	20	38.3	39.2
$5000 to 7499	84	65	27	28	32.1	43.1
$7500 to 9999	81	79	28	35	34.6	44.3
$10,000 and over	229	203	103	106	45.0	52.2
Owners	433	381	167	183	38.6	48.0
Up to $2499	22	18	10	9	45.4	50.0
$2500 to 4999	34	26	11	11	32.4	42.3
$5000 to 7499	70	55	17	22	24.3	40.0
$7500 to 9999	81	79	28	35	34.6	44.3
$10,000 and over	226	203	101	106	44.7	52.2
Tenants	209	172	67	61	32.1	35.5
Up to $2499	166	137	43	46	23.9	33.6
$2500 to 4999	26	25	12	9	46.1	36.0
$5000 to 7499	14	10	10	6	71.4	60.0
$7500 to 9999	—	—	—	—	—	—
$10,000 and over	3	—	2	—	66.7	—

From Tables 123 and 124, one question of importance arises. That is, why should there be a semblance of a regular functional relationship between the size of investments and the proportion of church members among female children when there is none for their brothers, their fathers, or their mothers? The data themselves offer no clue to this. The only conclusion which seems justifiable is that female children probably are the first recipients of the cultural benefits of economic changes in family life. They go to school longer than boys, yet girls seem to be more dependent upon the economic condition of the family than boys in matters of acculturation generally. This is simply a general observation or an inference of the study, which may or may not rest upon sufficient supporting evidence to justify its being asserted as a fact. The sex ratios of both family heads and of children in the general population and in the church member population have a tendency to fluctuate in much the same fashion when based on the sizes of investments as when computed against the size of farms as the independent factor, as may be seen from Table 125.

In the owner sample of church members, the number of males to 100 females has a more consistent relation as between parents and children than in the tenant population. That is the sex ratios of owner children approximate those for parents, and variations from the group averages tend in the same directions, if not in approximately the same degrees, for owners. But in the tenant church member population the ratios of male children to females are disproportionately higher throughout than those of parents. Relatively speaking the tenant male population shows a greater predisposition toward church affiliation, which increases with the size of the investment, than owner males in the sample of children. However, the

general principle is for excess masculinity to be greater in all social and economic classes of the general population than in the church member population. It is almost certain to be a fault of sampling when such is not the case.

Table 125. Number of Males Per 100 Females Among Farm Family Heads and Children 13 Years of Age and Over for the General Farm Population and for Church Members According to Tenure Status and Size of Investment Operated by Original Farmers

Size of investment and tenure groups	Number of males per 100 females in population sample		Number of males per 100 females for church members		Deviations from expected ratios for church members	
	Family heads	Children	Family heads	Children	Family heads	Children
Total	104.1	116.1	87.4	95.9	-16.7	-20.2
Up to $2499	106.3	121.3	82.5	96.4	-23.8	-24.0
$2500 to 4999	109.5	117.8	84.4	115.0	-25.1	- 2.8
$5000 to 7499	103.8	129.2	123.1	96.4	+19.3	-32.8
$7500 to 9999	101.4	102.5	87.2	80.0	-14.2	-22.5
$10,000 and over	100.0	112.8	93.9	98.1	- 6.1	-14.7
Owners	101.7	113.7	91.8	91.3	- 9.9	-22.4
Up to $2499	111.1	122.2	114.3	111.1	+ 3.2	-11.1
$2500 to 4999	107.7	130.8	91.7	100.0	-16.0	-30.8
$5000 to 7499	102.3	127.3	86.2	77.3	-16.1	-50.0
$7500 to 9999	101.5	102.5	86.8	80.0	-14.1	-22.5
$10,000 and over	100.0	111.3	92.9	95.3	- 7.1	- 6.0
Tenants	106.9	121.5	81.7	109.8	-25.2	-11.7
Up to $2499	106.1	121.9	80.5	93.5	-25.6	-41.4
$2500 to 4999	110.8	104.0	80.0	133.3	-30.8	+29.3
$5000 to 7499	111.1	140.0	100.0	166.7	-11.1	+26.7
$7500 to 9999	100.0	---	100.0	---	0.0	---
$10,000 and over	100.0	---	100.0	---	0.0	---

5. Net Worth as a Factor in Church Membership of Farmers.

As has been explained already, "net worth" means the residue which is left when the total amount of all debts and obligations of any kind whatsoever is deducted from the aggregate value of all assets owned by the family. In other words, it is the equity which the farmer has in

all goods and properties in his possession. There is one unavoidable source of error in computing net worth. Even if the farmer gave the amount of his debts accurately to the penny, during the depression it was likely that he would tend to place a lower value upon his assets than they were actually worth. In the first place, he was afraid that any information he gave might be used as a means of helping public officials obtain a higher rendition of his property values for purposes of taxation. In the second place, at the time the survey was made the markets were in such a state of stagnation that he did not know much about the real values of his holdings. The writer is of the opinion that these conditions inevitably introduced a degree of bias in the figures obtained. But in spite of that, there was no check which could be employed as a basis of correction of the evaluations given. The figures represent, therefore, the simplest obtainable estimates of the farmer's worth as he gave it himself.

Net worth is in many respects a better estimate of economic status than either the size of farms or the size of investment because these two factors are largely fictitious in that a given farmer easily could have occupied a farm of given size and might have operated an investment in which he personally had no equity whatever. But his net worth represented what he himself owned regardless of the size either of his farm or of his operating investment. Sometimes his obligations were greater than his assets in which case his net worth was less than zero. However, the net worth of farmers is still a device which largely separates tenants from owners, but not quite to as great an extent as the size of the investment.

In Table 126 the proportions of farmers in different net worth classes who were church members are given. The data of Table 126,

allowing for possible faults of sampling, show that on the whole there is a small degree of direct correlation between net worth and church membership so far as the male family heads were concerned, and for female family heads in the tenant class. In the owner population, there is inadequate evidence to prove that such a relationship exists, except that in the $10,000 and over class. The proportions of church members for family heads of both sexes who were church members were appreciably higher than in any of the smaller classes in which the number of cases was sufficiently large to admit of comparison.

Table 126. Number and Percent of Farm Family Heads of Each Sex Who Were Church Members According to Tenure Status and Net Worth Groups

Net worth and tenure groups	Number of family heads		Number of family heads who were church members		Percent church members were of total family heads	
	Males	Females	Males	Females	Males	Females
Total	557	535	285	328	51.2	60.9
Less than 0	26	25	11	11	42.3	44.0
0 to $2499	240	223	107	129	44.6	57.8
$2500 to 4999	74	72	39	48	52.7	66.7
$5000 to 7499	57	57	29	36	50.9	63.2
$7500 to 9999	49	46	25	24	51.0	52.2
$10,000 and over	111	112	74	78	66.7	69.7
Owners	293	288	169	194	57.7	67.9
Less than 0	3	3	3	3	100.0	100.0
0 to $2499	33	29	19	17	57.6	58.6
$2500 to 4999	46	47	23	30	50.0	63.8
$5000 to 7499	53	53	26	33	49.1	62.3
$7500 to 9999	48	45	25	24	52.1	53.3
$10,000 and over	110	111	73	77	66.3	69.4
Tenants	264	247	116	142	43.9	57.5
Less than 0	23	22	8	8	34.8	36.4
0 to $2499	207	194	88	112	42.5	57.7
$2500 to 4999	28	25	16	18	57.1	72.0
$5000 to 7499	4	4	3	3	75.0	75.0
$7500 to 9999	1	1	---	---	---	---
$10,000 and over	1	1	1	1	100.0	100.0

If all classes of owners having less than $10,000 net worth are taken together, it will be found that 52.5 percent of the male and 60.5

percent of the female family heads were church members as compared with 66.3 percent of the male and 69.4 percent of the female family heads in the $10,000 class and over. In the tenant population the proportions of church members among family heads of both sexes increase progressively with increases in net worth.

Comparisons similar to those above are made in Table 127 for the children of the original family heads. While the proportions of church members are smaller for children than for parents of the same economic groups, the distributions and variations of the two populations are similar.

Table 127. Number and Percent of Farm Children 13 Years of Age and Over Who Were Church Members According to Tenure Status and Net Worth of Families

Net worth and tenure groups	Number of children 13 years of age and over		Number of children who were church members		Percent church members were of total children	
	Males	Females	Males	Females	Males	Females
Total	642	558	234	244	36.4	44.1
Less than 0	28	27	9	11	32.1	40.7
0 to $2249	198	165	55	56	27.8	33.9
$2250 to 4999	98	75	44	42	44.9	56.0
$5000 to 7499	84	63	19	24	22.6	38.1
$7500 to 9999	60	51	19	20	31.7	39.2
$10,000 and over	174	172	88	91	50.6	52.9
Owners	433	381	167	183	38.6	48.0
Less than 0	2	2	2	2	100.0	100.0
0 to $2249	50	41	17	16	34.0	39.0
$2250 to 4999	71	57	27	33	38.0	57.9
$5000 to 7499	79	58	16	21	20.1	36.2
$7500 to 9999	59	51	19	20	32.2	39.2
$10,000 and over	172	172	86	91	50.0	52.9
Tenants	209	172	67	61	32.1	35.5
Less than 0	26	25	7	9	26.9	36.0
$0 to $2249	148	124	38	40	25.7	32.3
$2250 to 4999	27	18	17	9	63.0	50.0
$5000 to 7499	5	5	3	3	60.0	60.0
$7500 to 9999	1	0	0	0	---	---
$10,000 and over	2	0	2	0	100.0	---

In the tenant population, children, like parents, seem to have a tendency to become church members in increasing proportions as the net worth of the parental family increases. In the owner sample, the variation is erratic and indicates no particular tendency for children of either sex when they are divided into the several net worth classes. By taking all owner children together who came from families of less than $10,000 net worth, it was found that 51.0 percent of the males and 44.0 percent of the females were church members as compared with 50.0 percent of the males and 52.9 percent of the females in the class having a net worth of $10,000 and over. This, apparently, shows that there is some relation between net worth, or economic status, of families and church membership.

Because both church membership and net worth are dependent upon many remote factors neither of which can have a great deal of influence upon the other, it necessarily follows that there is no uniform functional association between the two variables. It seems simply to be one of those cases in which numerous qualitative limiting phrases, such as by and large, in the long run, and other things being equal, the more well-to-do farmers and their families tend to become members of churches in greater proportions than the poor and the improvident. Certainly, economic status is a very important factor which limits the potential satisfaction of a broad scale of wants. However, being either poor or wealthy does not necessarily constitute a stimulus which causes people to want certain things, including status in organized religion. It simply determines partially whether or not such things can be had if they are desired.

The sex ratios among church members are not affected in a uniform way by the separation of the samples according to net worth. This may

be seen from a study of Table 128.

Table 128. Number of Males Per 100 Females Among Family Heads and Children 13 Years of Age and Over for the General Farm Population and for Church Members According to Tenure Status and Net Worth of Original Farm Families

Net worth and tenure groups	Number of males to 100 females in population sample		Number of males to 100 females for church members		Deviations from expected ratios for church members	
	Family heads	Children	Family heads	Children	Family heads	Children
Total	104.1	116.1	87.4	95.9	-16.7	-20.2
Less than 0	104.0	103.7	100.0	81.8	- 4.0	-21.9
0 to $2499	107.6	113.9	90.8	98.2	-16.8	-15.7
$2500 to 4499	102.8	130.7	81.2	104.8	-21.6	-25.9
$5000 to 7499	100.0	133.3	80.6	79.2	-19.4	-54.1
$7500 to 9999	106.5	117.6	104.2	90.5	- 2.3	-27.1
$10,000 and over	99.1	101.2	94.9	95.6	- 4.2	- 5.6
Owners	101.7	113.7	91.8	91.3	- 9.9	-22.4
Less than 0	100.0	100.0	100.0	100.0	0.0	0.0
0 to $2499	113.8	122.0	111.8	106.2	- 2.0	-15.8
$2500 to 4999	97.9	124.6	76.7	81.8	-21.2	-42.8
$5000 to 7499	100.0	136.2	78.8	76.2	-21.2	-60.0
$7500 to 9999	106.7	115.7	104.2	90.5	- 4.5	-25.2
$10,000 and over	99.1	100.0	94.8	94.5	- 4.3	- 5.5
Tenants	106.9	121.5	81.7	109.8	-25.2	-11.7
Less than 0	104.5	104.0	100.0	77.8	- 4.5	-26.2
0 to $2499	106.7	119.4	78.6	105.3	-28.1	-14.1
$2500 to 4999	112.0	150.0	88.9	188.9	-23.1	+38.9
$5000 to 7499	100.0	100.0	100.0	100.0	0.0	0.0
$7500 to 9999	100.0	---	---	---	---	---
$10,000 and over	100.0	---	100.0	---	0.0	---

On the basis of statistical prediction alone, it is to be expected that the sex ratios in the church member population would not differ greatly from those in the general population of similar socio-economic characteristics. But this does not follow. The general population is more highly masculine than feminine, while the church population is much more feminine than masculine. As a result the purpose of studying sex distribution here as elsewhere in this section is to find out if variations in social and economic status of the population are accompanied by

relative increases or decreases in the proportion of masculinity in the church population and if the usual decrease in masculinity between the general and the church populations has any coordinate relationship with other social and economic factors.

In general, the decreases in masculinity in the church population as compared with the general sample of both family heads and children are smallest in the extreme net worth groups and greatest in the intermediate groups. This is especially true for the owner population, but among tenants it does not appear with any regularity. A somewhat similar observation may be made in reference to size of farms and size of investments. Why this should be true is not wholly apparent, unless it be that churches attract males disproportionately from the opposite extremes of the economic pyramid, which would cause the proportions of masculinity in the extreme economic groups to be higher among church members than is characteristically true. In a city population this might conceivably justify the speculation that the poor join the church either in search of economic security or in search of a retreat from anxiety while the well-to-do join churches as a means of extending their influence over larger spheres of activity and more people. Probably, social climbing is the important factor. Those who do not attempt to climb and those who have already reached the top have time for church activity. More probably both the poor and the well-to-do classes of men feel that they have leisure they can afford to devote to religious associations in a greater degree than those in more moderate circumstances.

6. Education as a Factor in Church Membership.

Because the farm population is characteristically an eighth grade educational group, no matter what other economic and social traits it may possess, it is necessary to think of the influence of education upon church membership as a variation from the eighth grade. A general popular assumption is that increasing the amount of schooling a man receives does violence to his religious prejudices, sentiments, and beliefs. In the farm population the meager evidences available indicate that this is not true, and, if any difference, there may be even a positive correlation between education and religiosity in agricultural society. Furthermore, there is no reliable proof that such a theory is valid in respect to any part of the population. Free thinkers and agnostics may pursue education further than religious adherents, and occasionally formal education may be accompanied by either an illusionment or a disillusionment in which a man's religious creed may suffer disruption. Likewise, religious enthusiasm may be reenforced by education. But in any case there is no basis for a generalized education and religion. They are often but supplementary phases of one and the same processes of acculturation.

In Tables 129 and 130 an effort has been made to determine whether or not there is any effective association between the amount of schooling received and the proportion of the farm population who are church members. Both education and religion are to some extent, whether in the same proportions or not, dependent upon the same limiting factors, economic status, social environment, and innate qualities of the population.

Table 128. Number and Percentage of Farm Family Heads of Each Sex Who Were Church Members According to Tenure Status and the Grade Finished in School by Each

Educational and tenure group of family heads	Number of family heads		Number of church members		Percent church members were of total persons	
	Males	Females	Males	Females	Males	Females
Total	557	535	285	326	51.2	60.9
Up to 4th grade	53	17	26	13	49.1	76.5
5 to 8	392	352	199	209	50.8	59.4
9 to 12	85	116	41	71	48.2	61.2
13 and over	27	50	19	33	70.4	66.0
Owners	293	288	169	184	57.7	63.9
Up to 4th grade	33	12	17	8	51.5	66.7
5 to 8	219	206	123	127	56.1	61.7
9 to 12	28	51	20	35	71.4	68.6
13 and over	13	19	9	14	69.2	73.7
Tenants	264	247	116	142	43.9	57.5
Up to 4th grade	20	5	9	5	45.0	100.0
5 to 8	173	146	76	82	43.9	56.2
9 to 12	57	65	21	36	36.8	55.4
13 and over	14	31	10	19	71.4	61.3

In Table 129, there is a general indication of a direct association between education received and inclinations of the population toward church membership, but within limits and subject to the eccentricities of sampling. The amount of education could be neither so small that none of the population would be church members nor so great that all would join the churches if the samples in each case remained truly random and representative. In the owner population the minimum limits of church membership are around 50 percent of the males in the lower educational strata while the maximum is approximately 70 percent for those with the greatest amounts of education. For female family heads in the owner population, the lower educational stratum is in an intermediate position in church membership, and the intermediate educational group is in the lowest position in respect to church membership. But farmers with the highest amounts of schooling were also first in proportions of church members.

In the tenant population, the relation of education and church membership for both male and female family heads is somewhat similar to that for females in the owner class. Probably, this is because the tenant population is a much more mobile class than owners. In the tenant population there are many potential owners, many sons and daughters of owners, and relatively more young people whose religious affiliations have not been determined than in the owner operator class.

Furthermore, it is true for both owner and tenant family heads of both sexes that those who have gone to school most are usually the youngest people in each tenure class. Since it has been shown that age of the population is the only uniformly selective factor in church membership, it is to be expected that there will be numerous reversals of tendencies when education is made the independent factor. In such cases, it is not justifiable to suppose that an increase in either variable exerts a negative influence upon the other.

In Table 130 the distributions of children are shown as to education and church membership. Taking the entire sample of male children, it will be seen that the proportions of church members increase directly with the amount of education received. Except for sampling errors this tendency prevails throughout the male population. In the female population the tendency is for a direct relation between the two factors for tenant's daughters, but not for those of owners. In the case of owner daughters, those who had gone to college gave by far the highest percent of church members, but in all other classes the variations followed no particular trend. The variations in the proportions of daughters who were church members are quite similar to those for mothers. However, in the case of sons and fathers, the data show that the sons are more definitely selected on the basis of education than were their fathers.

From these sets of data there is one conclusion that seems justifiable. That is, the church affiliations of females are more independent of other social and economic characteristics of family living than those of males. Therefore, no general prevailing tendencies are found for females when they are sorted on the basis of social and economic status, except for age and tenure status.

Table 130. Number and Percentage of Children of Each Sex in Farm Families Who Were Church Members According to Tenure Status of Family and Grade Finished in School by Children for Children 13 Years of Age and Over

Educational and tenure groups of children	Number of children 13 years of age and over		Number of children who were church members		Percent of children who were church members	
	Males	Females	Males	Females	Males	Females
Total	642	553	234	244	36.4	44.1
Up to 4th grade	10	2	2	1	20.0	50.0
5 to 8	284	229	92	92	32.4	40.2
9 to 12	262	229	89	89	34.0	38.9
13 and over	86	93	51	62	59.3	66.7
Owner families	433	381	167	183	38.6	48.0
Up to 4th grade	5	2	0	1	0.0	50.0
5 to 8	172	141	63	63	36.6	44.7
9 to 12	184	158	64	64	34.2	40.5
13 and over	72	80	40	55	76.4	68.9
Tenant families	209	172	67	61	32.1	35.5
Up to 4th grade	5	--	2	—	40.0	—
5 to 8	112	88	29	29	25.9	33.0
9 to 12	78	71	25	25	32.1	35.2
13 and over	14	13	11	7	78.6	53.8

Sex ratios on the basis of education both in the general and in the church populations show a very decided tendency for masculinity to increase in inverse proportion to education. In comparison with preceding data on this point, particularly in the children's sample, males have the greatest advantage, but it obtains only below the high school level. However, the degree of masculinity changes less in the higher educational

groups than in the lower in comparing the church members with the general population. This means that in the higher educational levels, the proportions of males both in church and out are more nearly the same than in the lower grades of schooling. But in an absolute sense, it appears to be the uneducated classes of men, or those of limited education who are neglected by organized religion most often because the losses are terrific in comparing the sex ratios of the general population with those of church members in the eighth grade and below.

Table 151. Number of Males Per 100 Females Among Family Heads and Children 15 Years of Age and Over for the General Population and for Church Members According to Tenure Status and Education of Family Members

Educational and tenure groups	Number of males per 100 females in population sample		Number of males per 100 females for church membership		Deviation from expected ratios for church membership	
	Family heads	Children	Family heads	Children	Family heads	Children
Total	104.1	116.1	87.4	95.9	-16.7	-20.2
Up to 4th grade	311.9	500.0	200.0	200.0	-111.9	-300.0
5 to 8	111.1	124.0	90.4	100.0	- 20.7	- 24.0
9 to 12	73.3	114.4	57.7	100.0	- 15.6	- 14.4
13 and over	54.0	92.5	57.6	82.3	+ 3.6	- 10.2
Owners	101.7	113.7	91.8	91.3	- 9.9	- 22.4
Up to 4th grade	275.0	250.0	212.5	---	- 62.5	-250.0
5 to 8	106.3	122.0	96.9	100.0	- 9.4	- 22.0
9 to 12	54.9	116.5	57.1	100.0	+ 2.2	- 16.5
13 and over	68.4	90.0	64.4	72.7	- 4.0	- 17.3
Tenants	106.9	121.5	81.7	109.8	- 25.2	- 11.7
Up to 4th grade	400.0	---	180.0	---	-220.0	0.0
5 to 8	118.5	127.3	92.7	100.0	- 25.8	- 27.3
9 to 12	87.7	109.9	58.3	100.0	- 55.4	- 9.9
13 and over	45.1	107.7	52.6	157.1	+ 7.5	+ 49.4

The various factors which have been studied in relation to church membership have not yielded surprising results. Age of the population is the only independent variable employed which showed a consistency

in the selection of church members. There may be several reasons why economic factors do not find a definite response in the religious behavior of the population. While religion is indefinable, it is known to be closely associated with the human emotions and desires. It existed in savagery before there was anything that could be described as an economic life except in the loosest possible sense in which the term may be used. These same emotions do not respect the state or station of human beings in the sense of being either absent or present according to whether one may be either poor or rich. Furthermore, membership in churches bears only an arbitrary and a subjective relation to religion for the most part, no matter what types of correlations may be established between it and different economic factors.

In other words, membership studies of all kinds and of church membership specifically are mostly valueless in their contributions to social science, except in two respects. First, they generally are able to show how many and what proportion of a given population group are dependent upon some forms of organized activity in order to find the particular satisfactions for which they feel a need. In the second place, membership studies may afford a convenient point of departure in the investigation of the sociology of conflict, since purposive group organizations are usually erected as a means by which social conflict may be waged more successfully.

In church membership studies, the purposes are largely defeated because affiliation with an organized religious faith is so often only a matter of accepting a set of pre-arranged attitudes and values which may have existed for centuries all because of the accidents of birth, territorial residence, race, nationality or some other fortuitous circum-

stance. It does not represent a purely voluntary association nor one which in individual cases is the result of a logical, rational sequence of situations and responses. It is only when membership can be tested by some form of external, active behavior that its significance becomes tangible, if at all.

7. Relation of Church Membership and Age at Marriage.

Because of the semi-religious nature of marriage, it was thought probable that there might be a somewhat close association between church membership and the age of the population at marriage. To be sure some marriages take place before either party to them becomes a church member, and again persons who were church members before marriage may cease being afterwards. There are many exceptions that may arise, but on the whole it would be supposed that all persons who are not church members are less amenable to church sanctions than the members. Reasoning from these and similar assumptions two sets of data were tabulated, one for all males both fathers and sons, and one for all females both mothers and daughters which showed the age distribution of the population at marriage by single years from 15 to 34 for church members and for non-members side by side. These data are shown in simple frequency distributions and in percentage distributions. Table 132 contains the data on the male population.

By a careful study of the data in Table 132, the results which may be observed are that in the male population there are three phases in the movement of ages at marriage for members as compared with non-members. First, prior to the age of 22 years, the proportions marrying are practically the same for both members and non-members. Second, between the ages of 22 and 27, non-members married in larger proportions than members. Third, above 27 years of age members married in larger proportions than

non-members. The differences in all cases were small, but they were consistent. Biological maturation is perhaps the greatest single factor relative to the age of the farm population at marriage, and it is significant when social or economic factors effect only slight deviations in the marital age curve if these variations are consistent within themselves, that is, if they are not merely erratic fluctuations.

Table 132. Distributions of Fathers and Sons According to Ages at Marriage for Church Members and Non-Church Members

Ages at marriage	Number of males		Percent	
	Members	Non-members	Members	Non-members
Total	391	379	100.0	100.0
15 and below	0	0	---	---
16	0	0	---	---
17	3	3	.8	.8
18	9	10	2.3	2.6
19	22	19	5.6	5.0
20	32	28	8.2	7.4
21	48	51	12.3	13.5
22	34	49	8.7	12.9
23	46	33	11.7	8.7
24	38	35	9.7	9.2
25	30	37	7.7	9.8
26	23	21	5.9	5.5
27	26	11	6.6	2.9
28	19	15	4.9	4.0
29	14	12	3.6	3.2
30	13	13	3.3	3.4
31	9	6	2.3	1.6
32	5	8	1.3	2.1
33	0	2	0	.5
34	3	1	.8	.3
35 and over	17	25	4.3	6.6

Following the same procedure as in Table 132, the distributions for females were made in Table 133. The separation of the data for males and females into two tables was a matter of convenience only. After all, the two arrays are not really comparable because of the characteristic tendency of the age curve for females at marriage to be skewed more toward the lower

ages than in the case of males, and also because of the far greater tendency of females than of males to be church members. The comparisons desired are on the basis of church membership and non-membership rather than on that of sex.

Table 133. Distributions of Mothers and Daughters According to Ages at Marriage for Church Members and Non-Church Members

Ages at marriage	Number of females		Percent	
	Members	Non-members	Members	Non-members
Total	469	360	100.0	100.0
15 and below	7	8	1.5	2.2
16	20	24	4.3	6.7
17	39	23	8.3	6.4
18	81	66	17.3	18.3
19	45	41	9.6	11.4
20	73	62	15.6	17.2
21	59	30	12.6	8.3
22	36	28	7.7	7.8
23	26	27	5.6	7.5
24	20	16	4.3	4.4
25	17	7	3.6	1.9
26	11	4	2.3	1.1
27	8	3	1.7	.8
28	9	4	1.9	1.1
29	3	2	.6	.6
30	2	1	.4	.3
31	2	2	.4	.6
32	1	2	.2	.6
33	1	0	.2	—
34	0	1	—	.3
35 and over	9	9	1.9	2.5

From the data in Table 133 it may be seen that there are only two phases of the movement of the age curves for females. First, in all ages below 26 years the proportions of non-members marrying are higher than for members. Second, from age 27 upward the proportions of members marrying are higher than for non-members. However, the spread between members and non-members is not great at any point on the curves, but it is consistent at all points.

For both of the above sets of data, the indications are that church members are probably a little more conservative than non-members in their marital behavior. Otherwise, it is difficult to determine just what reference the existing variations may have. If forced marriages were known to be more common among non-members than among church members, these differences would be at least partly accounted for. This, however, is not known to be a fact. The small indications of a direct association between either education and church membership or education and age at marriage in the farm population do not justify the belief that church members postpone marriage in order to attend school and college to an extent appreciably greater than do non-members.

There is a slight correlation between economic status and age at marriage and also between economic status and church membership. Perhaps, this may explain in part why church members married a little more slowly than non-members in the earlier adult ages.

8. Church Attendance and Support.

The attendance of farmers at church services has been studied only in somewhat incidental ways in this survey. It is recognized that inadequate treatment has been given the topic. However, since most of the socio-economic aspects of Oklahoma farm life have either a direct or an indirect reference to the problem of tenancy, it was thought that a brief mention of attendance from the viewpoint of tenure would suffice for the purposes of the study.

Perhaps one of the best indexes of a human interest in any social movement or form of participation is the amount of financial support it receives from those who endorse its policies. The average contributions of church members ranged from nothing to $80 per family, and of non-members they ran from nothing to $66 per family. However, larger group

averages were much smaller than the maximum indicated. All owner families in which the family head was a church member gave an average of $29 per family per year, while in owner non-member families the average church donation was only $9 per family. In the tenant population member family heads gave an average of $15 per family while non-member tenant families gave only $4 per family per year. The averages for all families whether having member heads or not was $14, for owners $21, and for tenants $9 per family per year. The actual size of these contributions seems small, but it will be remembered that the year 1932-33 was one in which the values of Oklahoma farm products were the lowest in the history of the State and one in which dollar purchasing power was unusually high.

Church support has a significant functional association with church attendance. Perhaps one reason for this is that contributions are usually made at the church when the donor attends in person. A series of simple correlations has been worked out in which the two variables used were the amount of money contributed annually as the independent and the frequency of church attendance as the dependent variable. The results of these computations are given in Table 134.

Table 134. Coefficients of Simple Correlation Between Family Contributions for Religious Purposes and Frequency of Church Attendance of Family Head Per Month

Population sample	Coefficients of simple correlation		
	All farmers	Owners	Tenants
All farmers	+.410 ± .035	+.606 ± .036	+.523 ± .045
Church members	+.477 ± .046	+.470 ± .059	+.486 ± .070
Non-church members	+.769 ± .025	+.557 ± .056	+.378 ± .070

The coefficients obtained in Table 134 are all significant in the statistical sense. They are also significant in the sociological sense.

In the first place, there is a higher correlation between the two variables for the owner than for the tenant population. In the light of the data on church membership, this is not surprising. But it may seem unique that the correlations are somewhat higher for non-members than for members. This may be caused by the fact that the non-member pays only when he goes to church while the member may either send his contribution by another, make it in lump sums at widely spread intervals, or even use his contribution as a form of vicarious church participation. These are only plausible inferences, but they probably have some value. The non-member neither goes to church as often nor pays as much for its support, but the important thing is that his attendance and his paying are more nearly coincidental than in the case of the church members.

From a utilitarian point of view, the data suggest that if the church would benefit materially by the support of non-members it must induce them to attend its meetings. This is, however, only an ex parte statement which in no way is a function of the investigation proper.

There is a relation between church attendance and the size of the family as well as between attendance and tenure status of the population although the facts available do not suggest the existence of a high positive correlation in this respect. The data for those comparisons are given in Table 135.

In Table 135 the average attendance at religious services per person is shown for the entire population ten years of age and over according to the number of persons in the home family. The average number of times owner persons attended church per year was 26.4 as compared with 22.8 times for tenants. In all cases in which households contained only one person the average attendance was 13.2 times per year.

Table 135. Average Number of Times Each Person 10 Years of Age and Over in the Home Family Attended Church During the Year of Study According to Tenure and the Number of Persons in the Family

Number of persons in home family	Average number of times each person 10 years of age and over attended church services during the year		
	All farmers	Owners	Tenants
Total	25.2	26.4	22.8
1	13.2	13.2	13.2
2	21.6	22.8	22.8
3	25.2	28.8	21.6
4	25.2	27.6	26.4
5	24.0	20.4	31.2
6	31.2	33.6	25.2
7	26.4	27.6	0.0
8	18.0	24.0	6.0
9	21.6	26.4	—

In both the owner and the tenant populations the maximum, 33.6 times for owners and 31.2 times for tenants was in families of six persons. In other words, in going from one person to six person families the average church attendance per person increased, but with noticeable irregularity. In families of over six persons there was an erratic downward trend in the average number of times each person attended church.

This suggests a significant question. It is, is there not such a thing as a principle of diminishing returns in the size of the families relative to processes of acculturation as well as to economic status which has been shown in an earlier part of the study? If so, what is the ideal or optimum size of farm families, thinking in terms of economic resources and potential cultural advancement. It has been shown already that the spendable income per capita does not keep up with the size of families. Also, it was found that there is an inverse correlation between education and the number of children born per family, and these data indicate that if there are over six persons, that is, four children per family, there

is probably a restriction placed upon religious participation. In another study in which the writer participated similar indications were found.[9]

9. Applications of the Study of Socio-Religious Life of the Farm Population.

From the study of the participation of farmers in the organized religious life of the community, no hard and fast conclusions can be drawn except that church membership is selective as to age and sex of the population. Speaking in broad terms, tenure and economic status seem to be directly associated with church membership, that is, relatively more owners than tenants, and relatively more of the well-to-do than of the poorer classes of farmers, especially owners, were church members. The socio-economic condition of the family bears a more direct and a more predictable relationship to church membership of children than to that of the original family heads themselves. A plausible reason is that the cultural influences and associations which stimulate church membership appear to be more effective during the period of youth than in adult life. Although the proportions of family heads of both sexes who were church members were larger than for children, there was less consistency in their variations as to social and economic factors.

It is difficult to draw conclusions as to the effect of church membership upon the social behavior of the farm population. Although religious affiliation may have a bearing upon the natural increase of some populations, preliminary analyses of the data showed that for the sample studied here it was so completely outweighed by other factors as to be

[9]Unpublished data compiled at Oklahoma Agricultural Experiment Station by O. L. Lurcan and J. T. Sanders.

entirely negligible. Likewise, the influence of membership in churches upon the age of the population at marriage, while tangible, is of small consequence. A further result which was somewhat surprising was that the membership of parents did not bear any tangible relationship with the membership of children, and therefore was not given specific treatment in the study. Church membership is directly associated with financial contributions to church activities to earn a greater extent with non-members than with members. Church attendance is affected by the size of the family, but not in a direct straight line relationship. Attendance per person per year increases somewhat irregularly in families of six persons in contrast with smaller families, and then decreases as the family becomes larger.

The purpose of this study is not to make recommendations designed for social betterment but to bring forth fundamental factual evidences showing conditions as they are and from which each one may draw his own conclusions. The data show that farm tenancy and over-population are the chief factors for which data were brought together militating against the socio-religious life of the communities surveyed, both as related to church membership and actual participation in the religious activities of the farm community.

PART V. CONCLUSION

CHAPTER XIII

SUMMARY AND CONCLUSIONS

1. General Observations on the Study.

The materials which have been presented in the preceding pages of this study represent the analysis of practically all ascertained facts obtained from a survey of 562 farm families residing in the winter wheat area of North Central Oklahoma during the crop year 1932-33. There is no claim that the study comprehends all the pertinent facts concerning farm family life in that area. It is frankly admitted and even urged that the study has done little more than sketch the external features of the socio-economic organization of the farm family in the localities surveyed.

Undoubtedly, the survey method of research has inherent disadvantages in its use which are somewhat restrictive in character. The data yielded by survey technique are necessarily superficial in character. In individual cases such data are likely to possess a comparatively large margin of errors in the estimates from which they are computed. The reliability of replies entered into a survey schedule must depend upon the memory, the partial information of which the informant is certain, and the good will factor of the persons interviewed. Admittedly these are sources of error. On the other hand, extremely large errors are uncommon because they would be so obvious as to attract the attention of the informant and the interviewer, and small errors tend to offset each other. Moreover, the survey method of study makes possible the manipulation of mass data relative to large as well as to

small samples. This makes for a high degree of representativeness, and facilitates the formulation of thoroughly objective generalizations.

It is recognized that the period of this study, 1932-33, was one in which agriculture was in an extremely unfavorable economic position because of the low prices of farm products, huge debts on land, high fixed charges against the industry which remained as after-pains of the World War and post war inflation period, the general paralysis of trade and economic intercourse, and because of the widespread psycho-social disruption which attended the insecurity and unrest that prevailed. While work habits and *esprit de corps* had not been destroyed completely, the farmers appeared to be on the brink of despair. They had begun to doubt the safety of their tangible properties. Frequent bank failures, prolonged decline in the prices of their products, the resulting relative increases in their tax burdens and interest charges in the face of the destruction of their markets had driven them almost to distraction. In many cases they were defying process servers with physical violence, in other instances they were threatening to abandon their farms and leave the mortgage holders and the tax collectors to their own devices in settling their claims against the land. Complete collapse was averted probably through the strategy of the President of the United States in his executive order enforcing the Banking Holiday in March of 1933, and through the mild inflation in the medium of exchange which followed the opening of the banks and the consequent short-lived revival of commodity prices which lasted from the middle of May through the greater part of July, 1933. This in turn was followed by the inauguration of the various production control programs, and the remuneration of the farmers for cooperation in the restrictive policies.

The initiation of these government expedients occurred for the most part while the field work of this survey was in progress. Although it was impossible to measure the psychological effects of these governmental efforts upon the farmers statistically, it is unquestionable that the senses detected signs of enlivenment which may be compared with the disturbances in an electro-magnetic field which are perceptible only to the most delicate galvenoscope almost simultaneously with their occurrence. The first visible movement came with the May, 1933, rise in the price of wheat. Within the first forty-eight hours after the initial upward ripple in wheat prices occurred, hundreds of freight cars were towed out of their parkings to the sidetracks and feeder lines which constitute a veritable entanglement in the wheat belt. Farmers worked day and night emptying their granaries in order to take advantage of the rising prices and to make storage room for their June harvests which were only a few weeks ahead. The survey was conducted at this juncture between the most distressful anxiety and the most jubilant hopes which had prevailed on the wheat farms of Oklahoma since the turbulent days of the World War. For these reasons, the economic data entered on the schedules probably are not entirely typical of any other period, either before or afterward.

The data, in spite of the above described uncertainties, show that certain significant relationships prevailed. Inventories of farmers were shrinking rapidly in size which means that past accumulations were being wiped out both by being used up and by the rapid shrinking of commodity values. The heavy investments represented by land and buildings, and the fixed charges of interest taxes and depreciation incidental to them were hastening the day of economic bankruptcy for the farmers

generally. Because of the strained economic situation, the farmer was disregarding the law of diminishing returns in order to turn every possible asset he owned into cash. He grew wheat which he did not expect to yield a return equal to his theoretical cost of production because he had large amounts of labor, machinery, and other agents of production for which his alternative uses were extremely few. While his costs of operation consumed only about half of his gross cash income, the actual cash he received was so small in amount that he could not maintain his family on the accustomed level of comfort even by using his past earnings to supplement current revenues.

2. Recapitulation of the Study.

As was stated at the outset, the objective of this study is to gain a more or less definite conception of the general cross section of farm life in a specific type of farming area of Oklahoma with special emphasis upon the structure and organization of the farm family institution itself and the social and economic factors functionally related thereto. The principal economic factors considered likely to affect the nature of the farm family include (1) the occupation of farming itself, (2) the size of the farm unit and the investment in farm operations, (3) the farm tenure status of the family, (4) the financial status, or net worth, of the family, (5) the work organization of the family, and (6) the net spendable income of the family. Likewise, it was thought that certain sociological and biological factors exert important influences upon the structural and functional organization of the farm family. Among these are the following: (1) The ages of farmers and their wives at marriage, (2) the occupational mobility of the farmers, (3) inter-occupational selection in marriage, (4) the age of the farmer at beginning work for

himself, (5) the fertility of the married pair, (6) the age and sex composition of the family, (7) the education of members of the family, (8) the presence or absence of persons other than parents and offspring in the family, and (9) the socio-religious affiliations of the family.

The fundamental hypothesis of the study is that there are certain demonstrable and fairly uniform relations between the economic factors underlying the agricultural organization of a type of farming area and that these factors are reflected in the internal structural and functional working of the farm family itself. It is believed that the family institution under the peculiar conditions of a given environment, such as are represented in a particular type of agriculture, makes definite adjustments to those conditions which become habitual in character and that these habitual modes of behavior become deeply implanted in the culture of the area. Through frequent repetition this behavior and adjustment patterns thus established come to possess value in survival. They are, therefore, transmitted from generation to generation as a cultural heritage, thus making it possible to predict with a fair degree of assurance what the nature of future adjustments will be once an existing farm family culture pattern has been analyzed and understood thoroughly.

The hypothesis of this study finds support in a vast body of general scientific theory and an extensive number of specialized studies of family life distributed over widely separated areas of space and periods of time. Scientific studies of the family had their beginning in the investigations of Frédéric Le Play who established numerous correlations between the structural and functional organization of the family and the modes of life to which it is subjected in various parts of the world. Ernst Engel found that the poorer a family is, the greater is the effort it must exert

to gratify its biological relation to its cultural needs. That is to say, he demonstrated objectively how economic status is related to the social organization and behavior of a family. The hypotheses of Le Play and Engel have been tested many times in this country as well as elsewhere. Uniformly the results of these testings and demonstrations have yielded significant results. Hence it is possible to find in existing researches assurances that the study of the family in a selected area may lead to the discovery of significant uniformities in family structure and behavior under the conditions which are peculiar to the area studied.

The general conclusion based on the data analyzed in the course of the study is that the farm family epitomizes more accurately and faithfully in its organization and activities the socio-economic life of an agricultural area than any other single social structure. The farm family is the prime agency of production, distribution, and consumption of wealth in the agricultural community. It is in the family institution that the organization of labor, land, and capital on the farm is centered. It is through the instrumentality of the farm family that the wealth produced is distributed functionally among the various factors of its production. Likewise, it is by the family that the wealth produced on the farm is put to its most effective uses. From an economic point of view, the business of farming is, therefore, a family enterprise throughout all the processes involved in it, and represents a coordination and a utilization of the energies and resources of the family. Sociologically, the farm family is the central core of rural life. The family is the agency for the production of human beings, for the care and training of children, for the provision of the things necessary to satisfy the physical needs of its members, and for the care of aged and dependent relatives.

It provides care for the sick, shelter for the unattached rural population, and is a factor for the mitigation of the psycho-social isolation which otherwise would result inevitably from the spatial isolation of the farm population. The farm family also serves as a medium of education, moral instruction, and protective supervision for its members. Finally, one of its most important functions is that of bringing down to the present the cultural heritage of the past, preserving the existing culture base, and of transmitting man's cultural achievements to future generations. Such are the more important generalizations to which this study has given objective factual support.

3. Some Significant Findings of the Study.

a. Findings on the Economic Aspects of Farm Family Organization.

The extent of the influence of the depression of agriculture during the period of 1932-33 may be gauged roughly by the decrease in the inventories of farm properties or assets other than land during that time. The data show that for this period, about 74 percent of all farmers decreased their inventories, while only 24 percent of them had inventory increases, and two percent experienced no appreciable change. While land values are known to have shrunk enormously at this time, it was impossible to measure the shrinkage because land ceased to move in the market. Farmers could neither sell nor buy land under the prevailing conditions. Even forced sales were suspended by moratoria. Thus, the farmer could scarcely reduce the size of his holdings, and was forced to take his loss in the form of a disappearance of a great portion of his land values through the general deflation of prices. On the whole, however, the reduction of inventories of vendible assets meant that most of the farmers studied were using past earnings and accumulations of wealth to meet

current expenses.

The assets of farm owners are made almost entirely by land, livestock and supplies, 83.4 percent of all assets being represented on the operated farm of these three classes of items. Of the total assets owned by owner operators, the operated farm constitutes 71 percent, other farms 5.9 percent, and other real estate 2.7 percent. This gives a total of 79.6 percent, or practically four-fifths of all assets, in real estate. Leaving out livestock and supplies on hand, all other assets of farm owners constitute only eight percent of the total assets. This includes life insurance, cash savings, shares and bonds and miscellaneous assets. In the case of tenants real estate comprises 13.6 percent of all assets, while livestock and supplies together make up 63.5 percent, which leaves 22.9 percent for all other assets. This indicates that the incidence of the fixed charges of interest, taxation, and depreciation fall much more heavily upon owners than upon tenants. In a period of declining prices such as that covered by this study, such facts as these indicate that farm owners are likely to suffer much greater privation relatively than tenants in respect to the levels of living which can be maintained.

The data for this study support the conclusion that farmers as a class are proprietorial. This applies to tenants as well as to owners, though not in the same degree, since tenant farmers have relatively large investments in the instruments of production which are used in the operation of a farm.

The absolute differences in gross incomes of owner and tenant farmers are not as great as might be expected. The principal differences are that a much larger proportion of tenants than of owners receive less than $750 per year and a larger proportion of owners than of tenants

receive gross incomes of $2,250 per year or more. However, the maximum gross income is as high for tenants as for owners, and even higher in rare instances. Both owners and tenants use roughly 48 percent of their gross incomes for family living, but the tenants with gross incomes of less than $750 per year are able to use a larger relative amount for family living than owners with small incomes, and tenants with gross incomes of $3,000 or more spent greater relative amounts for family living than owners. Between these extremes owners spent larger proportions of the gross income for family living than tenants. The conclusion is that the level of living maintained by the tenant farm family need not necessarily be lower than that of the owner family, although often such is the case.

In comparing the family living expenditures of owner and tenant families it is observed that the percentages of the net spendable income used for food, clothing, automobiles, and personal items are greater for tenants than for owners. The reverse is true for household operations, advancement, and investments. This indicates that the owner family may have a more acute sense of the future than the tenant family since the owner group attempts to make more adequate provision for the satisfaction of future wants than the tenant group. Similar distinctions may be made, for the most part, between the spending habits of the poorer and the more well-to-do families regardless of tenure status.

Expenditures for the satisfaction of physiological wants, food, clothing, and household operations, and for health maintenance taken collectively rise as the size of the family increases up to five "ammain units" at which level there is an appreciable drop in the proportion of the income spent for these wants. When the size of the family exceeds

five emmain units the proportion of the spendable income which goes for the satisfaction of these wants rises again. Also the relative amounts of the spendable income used for advancement and for investment are greatest for families of less than two and around five "emmain units" in size. This suggests rather strongly that the size of the family is significantly related to its ability to live well, the more ideal sizes being either two persons or five persons. That is to say there are economies in the distribution of the family budget which are to be found most easily in small and average sized families. In almost any phase of living, it appears that families having the equivalent of between four and five persons are the most favorably situated. It is practically certain that if the number of persons in a farm family exceeds five "emmain units" there will be evidences of privation on one account or another.

The question of what constitutes the optimum size of family for the farms in the area of this study rises up boldly at almost every turn in the analysis. It is apparent that farm families have a tendency to increase in size somewhat more rapidly than their resources for maintenance. The modal size of farms included in this study is 160 acres, or thereabouts. For that size of farm, a family of five persons seems to approach the optimum. Fewer than five persons per farm of 160 acres do not get the best combination of land and labor factors in the production of the family income. If there are more than five persons per farm of 160 acres, the principle of diminishing returns becomes operative, and the family begins to suffer privation. While this contention is not proved at any single point in the study, there are many implicit evidences which lend support to it.

The belief that farming is essentially a family enterprise is borne

out by this study. The evidence of this is that of all households visited 87.2 percent contained both the husband and the wife living at the time of the survey, and only 4.8 percent were domiciles of solitary operators. The contention is, therefore, that farming is an occupation which is highly compatible with the family mode of living. Moreover, the bulk of all unmarried adult persons living on the farm maintain either quasi-family status in the households where they live or carry on a semblance of family economy where they live alone. The farm household is, therefore, a flexible unit with comparatively great power of absorption for persons without actual family status of their own rights. In the matter of caring for additional persons, the households of owners are even more flexible than those of tenants.

The farm owner household contains more additional persons than that of the farm tenant. The reasons for this appear to be that the owner is more able financially to care for additional persons than the tenant and has a larger house than the tenant as a rule. The farms of owners are more diversified in the character of their enterprises than those of tenants, and are better able to utilize the labor of additional persons than those of tenants. On the average owner operators are older than tenants and are more likely than tenants to have dependent relatives for whom they must take responsibility. All of these factors are important when explaining differences in the composition of owner as compared with tenant households.

One of the important characteristics of the farm family is its work habits. While the owner operator actually works in his crops fewer days on an average than the tenant operator, the female family head, the children, and other persons on the owner operated farm work in the crops a greater number of days out of the year than persons of the same or similar

position on tenant operated farms. This indicates probably that the farm owner spends more time in managerial activities than the tenant farm operator. Also, it indicates that the family labor on the owner farm makes a greater contribution toward the maintenance of the total farm family enterprise than is true on the tenant farm. Also this fact offers further proof of the greater capacity of the owner than of the tenant farm to utilize non-family labor on the farm. Finally, this difference between the work habits of tenant and owner families is undoubtedly a partial explanation of the difference between their respective levels of living.

b. Findings on the Formation and Growth of the Farm Family.

In agricultural society the male head of the family usually occupies a preeminent position both within his own family and in the neighborhood or the community in which he resides. This is partly because of the age-old patriarchal character of the farm family and also because agriculture has usually been regarded as a masculine occupation by peoples who have proceeded in their cultural advancement beyond the levels of primitive savagery and barbarism. This is not to depreciate the functions of women and children in the agriculture of complex societies but rather explain somewhat the position which has been attained in agriculture by the male. This position has been enhanced further by the fact that the male has reserved to himself the greater part of the control and government of the economic resources and activities of the family. It seems safe to say that the centralization of economic as well as parental control in the male head reaches its zenith in the farm family as has been preserved there longer than in any other type of family. Following this general line of reasoning a detailed study of the farm operator has been made as

the point of departure in investigating the formation of the farm family.

This study has found that the great majority of farm operators, about 92 percent of the owners and 96 percent of the tenants, originated on the farm. That is to say that agriculture has supplied practically all of its own recruits. This is a thing which can scarcely be said about any other large industry in the United States.

The most outstanding difference between owner and tenant farm operators arises in their respective age compositions. On the whole owners are much older than tenants. In the owner group 61.4 percent of the operators are 50 years of age or older as compared with 20.4 percent of the tenants. On the other hand, only 15.7 percent of the owners as compared with 54.1 percent of the tenant operators are below 40 years of age, while 2.5 percent of the owners and 19.7 percent of the tenant operators are below 30 years of age. This indicates rather convincingly that the ownership of farm land, except when acquired gratuitously, is functionally related to the age of the farmer.

What has been said regarding the association between land ownership and the age of the farm operator applies in a similar way with reference to the size of the investment owned. The accumulation of a large investment requires time which in turn advances the age of the farmer. Hence it is not surprising to find that 54 percent of the farmers with investments of less than $2,500 are below 40 years of age while 66 percent of those with investments of $10,000 and over are 50 years of age or over.

Because of the long period of time required in getting themselves established in farming most farmers begin working for themselves early in life. Of the farmers studied, 34.5 percent of the owners and 44.4 percent of the tenants began working on their own responsibilities before

reaching the age of 20 years, and 54.5 percent of the owners and 46.7 percent of the tenants started work between the ages of 20 and 25 years. Thus, 90 percent of all farmers in the study began work for themselves before attaining the age of 25 years. The study shows, however, that it is as likely to be a handicap for a farmer to begin working for himself prematurely as for him to wait until he is past the average age for beginning before taking this step.

Particularly important in relation to the formation of the family is the acquisition of property. In this study the factor of inheritence of property is of minor importance since 69.2 percent of the owner and 86.8 percent of the tenant operators claim to have inherited nothing. In the owner group 14.4 percent of the operators inherited an average of 139 acres of land and 16.4 percent inherited an average of $3,206 in money. In the tenant group 3.5 percent of the operators inherited an average of 56 acres of land and 9.9 percent of them inherited an average of $1,273 in money. The majority, 59 percent, of the owner farmers bought their land without assistance from any source while 32 percent received assistance from banks and finance companies, and another five percent got help from relatives. The remainder could not account for their early efforts toward farm ownership. All of these facts indicate that a high degree of individual initiative is required of the farmer who seeks to become an owner of the land he farms.

In the winter wheat area of Oklahoma evidences that the "agricultural ladder" is operative are quite plain. About 44 percent of all farmer operators studied have previous records as farm laborers, 20 percent as croppers, and 65 percent as tenants. It may be recalled that 47 percent of the farmers visited in 1933 are tenants, and 53 percent are owners. This means undoubtedly that there is an appreciable movement of farmers

from one tenure group to another. The infiltration of workers from non-agricultural occupations into the agriculture of this area is a factor of minor importance. Some 14 percent of the operators have had experience as unskilled laborers and 10 percent as semi-skilled laborers. The proportions with experience as skilled workers, business and professional employment are negligible. Since over 90 percent of these farmers are farm born and reared the conclusion is that some of them have left the farm as young men and returned after being employed temporarily in non-agricultural occupations.

The farmers who have had non-farm experience are mostly those in the middle part of their earning life. When the young men have left the farm, it is evident that they have not yet returned. Ordinarily those who go into non-agricultural work remain there from seven to twenty years. This accounts for the small number of young farmers who have experience outside of agriculture. There is no significant difference between the proportions of owners and tenants who start their farming careers as farm laborers or as croppers. However, the proportions of tenants who have been either unskilled or semi-skilled laborers are nearly twice as great as for owners. The differences between these two groups as to the proportions who have been employed in business, skilled labor, clerical work, or professions are not statistically significant.

The study shows that only two percent of the farm tenant operators are former owners of farms. This can mean only one of two things. Either the percentage of farm owners who lose their farms is smaller than is commonly supposed or those who lose their farms quit agriculture and move elsewhere in search of work. There is a strong presumption that while both of these conclusions are valid, the latter is the

more frequent occurrence.

The amount of formal education received is usually considered to be an important mark of distinction between population groups. The data of this study show that 34 percent of the farm owners as compared with 24 percent of the tenants quit school before entering the eighth grade while 14 percent of the owners and 27 percent of the tenants went to high school and college. In the owner group 52 percent quit school at the eighth grade as against 49 percent of the tenants. The explanation of these differences is undoubtedly to be found in the greater age of the owner than of the tenant operators, and the fact that being older, the owners had poorer educational advantages than the tenants. This grows out of the rather recent development of Oklahoma as a state. When many of the older farmers settled in the territory it was completely devoid of schools.

Migration has played an important part in Oklahoma agriculture, and the effects of migration are reflected upon the tenure status of the farm operators. Almost four times as large a proportion of tenant as of owner operators have lived on the farm where they resided in 1935 for four years or less, and 43.8 percent of the owners as compared with only 4.7 percent of the tenants had lived on the last farm occupied for 20 years or longer. These differences in the moving habits of owner and tenant families are believed to contain a great part of the explanation of the apparently greater socio-economic stability of owner than of tenant families. Moreover, it was found that territorial mobility is correlated negatively with education, net worth, size of the investment in farm operations, size of the farm operated, and the gross income received. All of these factors have an important bearing upon farm family life.

Probably no single characteristic of a population group is more important than its age distribution. Age determines an infinite number of man's social and economic relationships as well as determines the nature of the relationships. In the marriage relationship men are usually older than their wives. In this study the modal age group for male heads of owner families is 60 to 69 years, although there are practically as many whose ages ranged from 40 to 49 and from 50 to 59 as were in the modal group. For female heads of owner families the modal age group is 40 to 49 years with almost as many falling between 50 and 59 as in the modal class. The modal age group of male heads of tenant families is 30 to 39 years, the next largest age group being from 40 to 49 years. For female heads of tenant families the modal age group is 30 to 39 years, with the second largest age group being those from 20 to 29 years old. If, however, an allowance of from two to four years is made to account for the usual excess of the husband's age over that of the wife, it is found that the ages of husbands and wives retain about the same spread regardless of the tenure or economic status of the family.

As is true with male heads of families, female heads of owner families are older than female heads of tenant families and show the same comparative lack of educational attainments as their husbands, although the average grade completed in school is higher for female than for male heads of families in both categories. The explanation for this is the same as in the case of male operators.

The study shows that both tenant operators and their wives married much earlier than the owner family heads of the same sex. The mean age of owner operators at marriage is 26.6 $\pm$ 5.3 years and of tenant operators 24.4 $\pm$ 4.8 years. For females, the mean age at marriage is 21.7 $\pm$ 3.1

years for owner wives and 20.6 ± 3.6 years for tenant wives. Likewise it is true that in the poorer economic groups marriages of persons of both sexes occurred earlier than in the more well-to-do groups. This leads to the conclusion that earlier marriages, especially those which may be called premature, act as handicaps against the economic advancement of the family throughout life. The data indicate also that as the population of both tenure groups becomes younger the age of marriage is lower and the spread between the ages of husband and wife becomes somewhat smaller. Differences between the ages of husbands and wives at marriage are largely biological in origin while between tenure groups such differences are socio-economic in character.

The data studied lend support to the thesis that in an agricultural population marriage, even at early ages, is both a social and an economic necessity, at least more so than would be the case in a highly urbanized population. What may be called "bachelor farming" is not only psychosocially intolerable, but it is inconvenient from the standpoint of affording no division of labor, and it is antithetical to the general pattern of living on the farm. Farming presupposes generation and life in abundance not only among animals and plants but among human beings also.

In the selection of mates in marriage, it appears to be true that occupational background is one of the most important factors. In a random sample of Oklahoma wheat farmers the chances are about 85 out of 100 that both the husband and the wife will have come from the farm, and are greater than 90 out of 100 that either one or the other will have been farm reared. However, the chances are also great in the case of non-agriculturally reared persons that mates will be taken from non-agricultural classes. This tendency toward what may be called the "occupational endogamy" of farm people is a significant phenomenon because it

may be calculated to preserve the rural or agricultural traditional values and standards of family life. This applies to tenant as well as to owner groups. There is likewise a high degree of correlation between the educational attainments of husbands and wives in farm families. In fact, there is a tendency toward homogeneity of cultural characteristics generally in marriages between farm people, and this is a factor which may be expected to stabilize the marital union and general family life on the farm.

Farm family life genetically speaking covers a possible span of about 30 years. This long period of potential generation is one of the most important factors accounting for the relatively high reproductive capacity of the farm family. Farm women who remain on the farm marry at early ages while their capacities for reproduction are great. They marry with the expectation of having children, and usually begin rearing their families while they themselves are yet young and vigorous.

There are certain important distinctions between the life cycles of owner and tenant farm families. While tenants marry somewhat earlier than owners and begin to have children a little sooner than owners, the life cycles of tenant families are somewhat shorter than those of owners. Tenant families are more likely to encounter premature disruption than those of owners, and this means that except for the "chronic" tenant population, the total fertility of owner families is likely to be greater than that of tenant families. Relatively fewer tenant than owner families reach final completion in their original tenure status. This means that tenants sometimes climb into the owner category and lose their identity as tenants. It means also that tenant families are mostly youthful in character and that prediction of their ultimate reproductivity is somewhat difficult.

This study indicates that, by and large, the fertility of the farm family is a biologically controlled phenomenon. However, there are grounds for asserting that such factors as education, economic status, and age at marriage exercise a barely perceptible negative influence upon fertility. On the other hand there is a very low positive correlation between fertility and territorial mobility as well as between fertility and the amount of land in the farm. These findings run counter to what is claimed for most urban population groups. The only tenable reason for this seems to be that the farm family is comparatively free from the disturbing effects of an artificial environment in regard to its natural functions. On the other hand the cultural factors of religion, occupation, spatial distribution of people on the land and the groups' mores are favorable toward high fertility in the farm family.

It is generally observed that there are more males than females in farm populations. This study provides no exception to that general principle. The reasons for this phenomenon are (1) a genetic excess of males over females at birth, (2) a selective migration of males over females into agricultural areas, (3) a selective migration of females over males to towns and cities, and (4) a lack of opportunities for gainful employment of women on farms, marriage, dependence, or emigration being the chief alternatives of young adult women on the farm. Thus from birth throughout young adult life the agricultural environment exhibits a preference for males over females. The data analyzed in the present study support these principles distinctly.

c. Findings Relative to the Influence of the Farm Family upon Its Members.

Not the least important function of the farm family is its role in conditioning the lives and behavior of its members. Historically the family

has been regarded as an efficient instrumentality for carrying the group culture from one generation to the next. It implants its own standards and values upon its members. It is the chief agency for imparting moral instruction, education for living in groups, and knowledge of ways and means of making a living to the children who are brought up in its circle of influence. In short the family is rivaled by no agency, not even by school or by church, in this function of fitting its members into the social milieu into which they are born.

The agricultural population has long been noted for its tendency toward relatively early marriages. In this study the propositi, being migrants or the direct offspring of migrants into Oklahoma, married later in many cases than is typical of farmers. This is especially true of the older families. For that reason there is active a "principle of regression" in the marriages of the children of this study. Both male and female children who were married exhibited a tendency to marry at earlier ages than their parents of the same sex, thus approximating more closely than their parents the characteristic ages at marriage for the farm population. This is interpreted to mean that the farm family in the area of this study, in spite of the disturbing influences of the rapid Oklahoma immigration, has preserved and continues to nurture the typical favorable rural attitude toward marriage at the threshold of adulthood.

Age at marriage is primarily a function of biological maturity in the farm population. Thus, there is an almost uniform tendency for female children to marry three years earlier than males which approximates closely the difference between male and female children in attaining maturity. This statement applies more accurately to the children who remain on the farm after marriage than to those who migrate elsewhere before marriage and enter non-farm occupations subsequently. As is the case with parents,

allowance being made for stated exceptions, socio-economic factors are of little apparent consequence in relation to bio-social behavior. This is regarded as one of the most significant findings of the entire investigation.

The foregoing statement is not to be interpreted as meaning that socio-economic factors are not at all important in relation to marital behavior, but rather that other factors are relatively more important. The mean ages of male children at marriage remains almost constant regardless of economic status, although that of female children rises from 18.6 years to 20.9 as the net wealth of their parents increased from a negative quantity to $10,000 or more. Even at the latest, the daughters of the wealthiest farmers marry early enough after reaching adulthood to have the advantage of all their child bearing life after their bodies have reached full maturity. The causes of this lack of comparability between the mean ages of male and female children at marriage are not easy to determine. However, the mean age of males at marriage is everywhere more erratic and unpredictable than that of females. In the farm population studied, there is a scarcity of marriageable females which gives them superior chances in marriage over those of males. On the other hand, the age of males at marriage is not as closely dependent upon economic status as that of females in agricultural society, and males find it easier to forego marriage and have economic independence on the farm than is true of females. The woman's economic position on the farm is determined almost entirely by her family status.

In the farm family formal education has very little relationship with marital behavior, either in the case of parents or of children. The contention sometimes encountered that the education of parents has

a direct influence upon the ages at which their children marry finds no support so far as male children are concerned. It is true, however, that female children marry later in families in which the parents have superior educational attainments than in those in which the parents have limited education. Again this identifies the female child more closely with the family than is true of the male child. The education of the individual himself bears no significant relation to his age at marriage in an agricultural community. In all probability this is because children on the farm now finish their schooling several years before becoming old enough to consider marriage, even though they complete high school and marry fairly early.

While it is shown that the mean grades in school finished by both male and female heads of tenant families are higher than those of owner families of the same sex, the reverse is true for children past school age in these same families. This is taken to mean one of two things: (1) either a large percentage of the heads of tenant families are children of owner families and had educational opportunities superior to those they can offer their own children; or (2) conditions are such that there is a fierce economic selection which militates severely against the educational opportunities of tenant farm families.

The data studied show that for children still in school, 46.1 percent of the children of owner families are retarded by one or more grades in school as compared with 50.4 percent of tenant children. For children age 7 to 10 years 28.6 percent of owner children are retarded by one year or more as compared with 33.3 percent of the tenant children of the same age. For children 15 to 21 years of age, the corresponding comparisons are 68.0 percent and 75.0 percent for owner and tenant children respectively. These and the preceding facts show conclusively that the tenant

farm family is failing to give its children educational opportunities with those of owners, whatever may be the cause.

Although tenants' families are unable to give their children educational advantages equal to those of owners' children, both tenants and owners are able to provide their children with more schooling than they themselves received. That is to say the educational level of owners' children has risen by practically three grades in the case of sons and by two grades in the case of daughters over that reached by their parents. In the case of tenants the average level finished by sons is two grades higher than that of fathers and that of daughters is almost two grades higher than that of mothers.

In marriage, farm children are more inclined than their parents to find mates outside of agriculture, although over 80 percent of the children of both sexes married farm reared mates. Farmers' daughters marry mates of non-agricultural origin, mostly from business, unskilled and semi-skilled laboring groups, more often than the sons of the same farmers. This seems somewhat surprising in the light of the fact that the marriageable females are relatively scarce on farms. The explanation of this tendency is, however, that young women migrate from the farm to cities and towns more often than young men in search of economic independence, and this is conducive to their finding mates in non-agricultural communities.

When young people migrate from the farms to the cities they enter unskilled and semi-skilled occupations in all cases except unmarried female children who enter professional employment primarily. Children of tenant farmers, both male and female, are more migratory than children of owner farmers, but when owner children of both sexes migrate, they have

better chances of entering business or professional employment than those of tenants who are drawn into the lower grades of industrial labor mostly. This is proof that the owner family is better prepared than the tenant family to give its children preparation for the choicest urban occupations should they decide to leave the farm. Apparently educational differences are mainly responsible for this difference.

The family is an agency for promoting religious training for its members. In this respect, the female head of the family plays a more important part than the male head, if church membership may be used as a criterion. Church membership follows the age pattern of the family very closely. It is also significantly related to the sex composition of the family. The proportions of old people and of females who are church members are greater than of young people and of males, whether in the case of parents or of children.

In the surveyed population there are evidences that socio-economic status influences church membership directly, especially when economic status is measured in dollar values. There is no definite correlation between the size of farms operated and the proportion of the population who are church members. This may mean that land is not a sensitive criterion of socio-economic status. However, the relationships between net worth and the size of the investment in farm operations and the proportion of the population who are church members are direct and positive. This fact suggests that the poorer farm families are eliminated from church membership by an economic selection. On the whole, education is positively correlated with church membership both with parents and with children in farm families. There is a slight tendency for children who are church members to postpone marriage somewhat longer than non-church members, which suggests that the influence of the church may be calculated to cul-

tivate conservation somewhat.

Contributions to church support are positively and significantly correlated with church attendance and more so in the case of non-members than of members. This leads to the inference that church members more often than non-members attend church without making a monetary contribution to its support. Church attendance tends to increase with the size of the family until the size of the family reaches six persons and to decline thereafter. This raises the important question of whether or not the size of the family is subject to the principle of diminishing returns in formal social participation. In other words, it seems probable that the size of the farm family may become so large as to interfere with socio-religious activity in a formal sense.

In general, it is apparent that no hard and fast conclusions can be drawn with reference to the participation of farmers in organized religious activities except that church membership is selective as to age and sex of the population. The socio-economic status of a family seems to be a better index of potential church participation for children than for family heads. While church membership tends to be more common among farm owners than among tenants, both with parents and with children, the amount of land which the family owns or uses in farm operation seems to be of little importance in determining church participation.

3. Some General Inferences.

Usually any type of research inadvertantly suggests a number of possible tendencies which the actual data do not prove conclusively. This study has been no exception to that rule. The data have indicated that the size of the family does not bear a linear relationship with its

ability to provide for its economic and cultural wants. Ordinarily the income received on a per capita basis may increase for a time as the size of the family grows. After that, the per capita income declines, showing that the addition of more members to the family takes place only at a sacrifice in the totality of economic wants which can be gratified. This shows up especially in the schooling received by children and in socio-religious participation of the family as a whole. This raises an important question. What is the optimum size of farm families necessary in order to afford the most nearly ideal balance between its economic productivity and its consumptive requirements? The answer must be made relative to the types and systems of farming practiced and to the general prevailing standards which are maintained throughout the community. In the area of this study, the optimum sized family seems to consist of two parents and from three to four children. The data to prove this are inadequate because it was possible to establish only subjective and arbitrary community standards of living and of culture.

Considering the economic progress made by the families, the optimum age at marriage for males was between 22 and 25 years and for females it seemed to be between 16 and 23 years.

On the whole, it seems that under the prevailing conditions, the minimum amount of land required to afford what might be called a decent standard of living for the average sized farm family was 160 acres. However, the want satisfying capacity of the farm increased continually as the size of farms increased beyond 160 acres, but the costs of farm operation increased more rapidly than the net spendable incomes on farms of 400 acres and more.

The principle of diminishing returns seems to be applicable in nearly all aspects of farm family living. It is easy for the farm to acquire

more people than it can support with apparent comfort. On the other hand, occasional "land thirsty" farmers often acquire more land than can be utilized effectively, because the inflexible charges of interest, depreciation, and taxes added to the necessity for greater expenses for labor, feed, and machinery take an undue share of the gross income. Especially does this seem true in an era of falling prices.

The family sized farm or the family farm unit in agriculture can be thought of as an ideal institution when, and only when, the land and human factors in agriculture are associated with each other in optimum proportions, quality of both land and people being given due consideration. This celebrated symbol of American agriculture is largely a myth, because the antecedent conditions necessary for its success are found far too infrequently.

The movement of farm population in the area studied, while selective in reference to acculturation, probably is not simply an egress of the best biological stocks from the farm because young people appear to leave the farms in almost equal proportions from nearly all socio-economic groups. If any difference, the rural emigration is slightly selective of those from the poorer classes. The important thing is not so much the class of farm people from which the migrants originate as the strata of the urban population into which they descend. Children migrating from the poorer farms go into the poorer classes of the cities and those from the better farms go into the more promising occupational strata of the cities. In other words, the affinities of farm youth toward cultural and economic advancement appear to be operative whether the youth remain on the farm or go elsewhere.

There seems to be a definite functional association between the "start" the young farmer receives and his subsequent career. The nature of the data

was such that this thesis could not be followed in minute detail, but it appears to be supportable on all sides.

Changes in the socio-economic status of farm families seem to be reflected by variations in the status of female children more quickly than in that of males. Perhaps this is an indication of the beginning of a new and a more varied role for the women in agricultural society.

Over-population and farm tenancy are two of the most serious problems in farm life generally; certainly in the area of this study where mechanization of agricultural production is continually driving people from the land.

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APPENDIX

OKLAHOMA AGRICULTURAL EXPERIMENT STATION

Department of Sociology and Rural Life

Study in Farm Population

Operator's Name_____ Address_____ County_____ Twp._____ Date_____

Description of Farm

Item	Number, value, etc.	Item, continued	Number, value, etc.
Total acres in farm		Feed: (Pur. by LL.) Per-cent Amt.	Value
Acres owned		Grains	$
Acres rented		Hay	$
Kinship to landlord		Other feed	$
Chief trade center		Seed: (Pur. by LL.) Amt.	
Distance to: Kind of road		Cotton	$
Trade center		Grains	$
School		Other seed	$
Church		Machinery and implements	$
Share of crop, or cash rent paid		Other furnishings for crop	$
Landlord's furnishing: Number Value		Total value of landlord's furnishings	$
Horses & Mules	$	Credit & advances, used:	
Dairy cattle	$	In making crop	$
Other livestock	$	For family living	$
	$	Source of credit--bank, store, etc.	
	$		

Uses of Land

Enterprises	Total acres operated	Owned acres operated	Rented acres operated
Cotton			
Corn			
Wheat			
Oats			
Truck			
Other crops			
Pasture			
Unused land			
Total			

What changes in your uses of farm land have been made necessary by the depression? State below:

_____

_____

_____

_____

CASH FARM EXPENDITURES

Item	Total costs	Amt. paid
Improvements:		
New buildings	$	$
Repairs on buildings		
Fencing & repairs		
Terracing		
Other improvements		
Crop expenditures:		
Seed		
Ginning or threshing		
Twine		
Hay baling & cutting		
Spraying		
Hired labor on farm		
Livestock expense:		
L. S. purchased		
Feed & salt (except hay)		
Hay & pasture		
Breeding fees		
Veterinary fees		
Tractor expense		
Machinery & implements		
New, purchased		
Old, repairs, etc.		
Trucking and express		
Taxes on farm property		
Interest and mortgage		
Cash rent		
Ins. on bld. & crops		
All other farm expenses		
Total farm expenses		

INVENTORY

Livestock	No. head	Value Beg. yr.	Value End yr.
Horses and mules			
Dairy cattle			
Other cattle			
Swine			
Poultry			
Other livestock			
Supplies:			
Supplies on hand			
Feed & seed on hand			
Machinery and imp.			
Automobile			
Truck			
Total farm assets			
Savings and cash			
Shares, bonds, etc.			
Paid-up life ins.			
Other farms			
Other real estate			
Personal property			
Accounts receivable			
All other assets			
Total non-farm assets			
Total assets			
Debts:			
Open accounts			
Notes & mortgages			
Other debts			
Total			
Net worth			

HOUSEHOLD OPERATION EXPENDITURES

Insurance value of house $_____

Item	Expenditures during year	Total value
Repairs for house		
Additions to house		
Bedding		
Furniture		
Kitchen utensils		
Canning equipment		
Laundry equip. & sup.		
Musical instruments		
Circle if have Radio Piano		
Electric cost		
Gas equipment		
Electric cost	X	
Gas cost	X	
Wood, coal & other fuel	X	
Hired help in home	X	
Ins. on household goods	X	
All other		
Totals		

Car Expense for Family Use

1. Model of car _____

   Cost _____ Year bought _____

2. Gasoline (not for farm use) _____
3. Oil and grease _____
4. Tires, tubes & repairs _____
5. Repairs on motor _____
6. Painting & body repairs _____
7. License _____
8. Fines _____
9. Damages or insurance _____
10. Payments on purchase price _____
11. Accessories _____
12. Any other car expense _____

Figure gasoline and oil costs on basis of total mileage driven at average rate of consumption.

FAMILY FOOD

For Period of ____1932 to ____1933

Item	Quantity purchased	Cost	Quantity produced at home	Quantity consumed
Flour				
Bread				
Meal				
Sugar				
Syrup				
Honey				
Tea				
Coffee				
Other groceries				
Poultry				
Pork				
Beef				
Other meat				
Lard				
Milk				
Cream				
Butter				
Eggs—doz.				
Fruit				
Vegetables				
Ice bill				
Any other				
Total				

Where total grocery bill can be estimated accurately take only the amount and quantity produced at home.

CLOTHING EXPENSE

Place Age and Sex above Each Child

Item	Man	Wife	Child	Child	Child	Child	Child	Child
Hats and caps								
Shoes and overshoes								
Coats, sweaters, etc.								
Shirts								
Work clothes								
Underwear								
Gloves								
Stockings and socks								
Accessories								
All other clothes								
Sewing materials								
Dressmaking (hired)								
Laundry (hired)								
Total cost								

Take only total or totals by persons where accurate estimates can be given.

Value of any clothing furnished by other relatives, Red Cross, or other agencies $ _____

Total clothing cost $ _____

Specify kind and amount if farm produce was traded in

_____

HEALTH EXPENDITURES

Items	Costs incurred	Total amount paid
Doctor		
Hospital		
Nurse		
Dentist		
Oculist and glasses		
Patent medicines and other drugs		
Prescriptions		
Births		
Deaths		
Cemetery expense		
Accidents		
Total		

Education:	For whom	Money spent	Type of school, elementary, high school, college or university, medical college, trade school, business college, etc.
School books			
Special tuition			
College expense			
Music lessons			
Extension course			
Total			

Note: If farm produce was used for payment or traded in anywhere, specify kind and amount in blanks provided for amount paid.

OTHER ADVANCEMENT EXPENDITURES EXCEPT EDUCATION

Reading	Number bought	Money spent
Books		
Magazines		
Daily papers		
Farm journals		
Local papers		
Religious papers		
All others		
Total		

	Amount spent
Travel (train or bus, etc.)	
Church	
Charity	
Lodges	
Clubs and organizations	
Movies and amusement	
Lodges (not counting ins.)	
Others of this class	
Total	

INVESTMENT EXPENSE

1. Life insurance	$
2. Stocks, bonds, shares, etc.	
3. Farm mortgage _____ Int.	
4. Other property	
5. Improvements and other property	
6. All other taxes not on this farm	
7. Other investment	
Total investment	

PERSONAL AND MISCELLANEOUS (Not included elsewhere)

Gifts	
Jewelry	
Toilet articles	
Candy	
Tobacco	
Photography	
Barber	
Spending money	
All other	
Total	

CASH RECEIPTS, JANUARY 1, 1932--DECEMBER 31, OR COMPARABLE PERIOD

Enterprise	Acres Planted	Acres Harvested	Amt. of product	Unit value of product	Value or share to landlord	Cash value sold or to be sold	Amt. consumed on farm	Total value or produce traded in at stores	Total cash value
Corn									
Wheat									
Oats									
Cotton									
Hay and legumes									
Garden and fruit									
Pecans or nuts									
Other crops									
Cattle									
Dairy products									
Hogs									
Other stock									
Milk & L.S. prod.									
Poultry and eggs									
Total									

INCOME DURING YEAR OTHER THAN FROM FARM

Rents recd.	_____	Gifts and inheritances recd.	_____
Dividends and interest	_____	Sales (not farm)	_____
Royalties and leases	_____	Road work	_____
Machine	_____	All other	_____

AMOUNT OF UNPAID LABOR ON FARM

Operator's total days	_____
Wife's days	_____
Children: No. working days	_____
Other days	_____

OTHER WAGES RECEIVED OFF FARM

Operator's	_____
Family	_____
Total	_____

FAMILY

Items	Man	Wife	S.D.	S.D.
Members of family (Star persons now living here)				
Age now (Circle deaths at age deaths occurred)				
Age at marriage (First time)				
Last grade finished in school (Circle if not in school now)				
Time spent by child over 21 on this farm last year				
Occupation or tenure of fathers-in-law of married children				
Member of church[1] (Give age at time of joining church)				
Attendance per month				
Church				
Young people's meetings and S.S.				
Place of residence of children not at home (C.T.F.V.)[2]				
Place of birth (C.T.F.V.)[2]				
Occupation of children not at home				

[1]If not church member place a figure (X) in space.

[2]City, Town, Farm, Village.

OTHERS WHO LIVE IN HOME

(Include any children who may have been living away from home but who have returned since the depression began)

Sex	Age	Months in home	Relationship	Room	Board	Clothing	Paid wages	Do they pay to family (Details)	Since Jan.1930 have they been employed elsewhere (Details)	A.E.

SUMMARY OF ADJUSTMENTS TO ECONOMIC DEPRESSION

Item	1929	1930	1931	1932	Remarks
Payments (Give cash amounts)					Where amounts cannot be estimated indicate by saying more, less, same, half, etc., in relation to the year 1929
Farm mortgage					
Interest paid					
Taxes paid					
Other notes and accounts					
New debts assumed					
Rents paid					
Food (Give proportions):					
Grown on farm					
Garden and orchard					
Bought at stores					
Clothing bought					
Household furnishings					
Health expenditures					
Recreation and amusement					
Education and advancement					
Travel					
Church and benevolences					
Farm operation (Cash outlay)					
Livestock purchased					
Feed and seed bought					
Machinery and equipment					
Repairs and improvement					
Miscellaneous					
Aid received from outside					
Income from other invest.					
Red Cross and other char.					
Friends and relatives					

OPERATOR'S TENURE HISTORY

1. Place principally reared_____ Occupation or tenure (C.T.V.F.)

of operator's father_____ Occupation or tenure of wife's father_____

2. Age at beginning work for himself_____ 3. Number of years worked as farmhand_____, cropper,_____

Share or cash tenant_____ Non-agricultural work_____

_____
(Give exact type of work)

4. Inheritances, gifts, amounts and dates received_____

_____ When farm was bought, who sponsored mortgage, relatives, friends, bankers?_____

5. How many years have you lived on this farm?_____ Other farms?_____ In town?_____ How many times have you moved from farm to farm?_____ Between farm and town?_____

Remarks_____

_____

_____

SUMMARY OF INCOME AND EXPENDITURES

Sales of all farm products	$	Upkeep and repairs	$
Rents received		Rent paid	
Interest and dividends		Purchase of L.S. and mach.	
Royalties and leases		Feed, seed, salt, etc.	
Machine		Hired labor	
Wages received		Trucking, combine, etc.	
Gifts and inheritances		Taxes	
Credit used		All other farm exp.	
All other income		TOTAL FARM LIVING EXPENSE	
TOTAL INCOME		Food	
Total farm expenses		Clothing	
Difference— +		Household operation	
Total family expense		Health	
Difference (should be none)		Advancement & entertain.	
		Family auto	
Expenditures		Investment	
Total farm expenditures	$	Personal and misc.	
Interest on mortgage		Total family and farm expenses	
Payments on mortgage			

BIOGRAPHY

Otis Durant Duncan was born November 20, 1897 on a farm near Mount Pleasant, Texas. From 1904 to 1915 he attended rural schools in Titus County. In 1915 he entered the Mount Pleasant High School from which he was graduated in 1918. He received the A.B. degree from the East Texas State Teachers College in 1924 and the M.S. degree from the Agricultural and Mechanical College of Texas in 1926. From 1926 to 1928 he was a graduate student at the University of Minnesota.

From 1919 through 1925 he served as principal and superintendent of public schools in North Texas. He was successively graduate fellow in Rural Sociology at the Agricultural and Mechanical College of Texas, 1925-26; instructor in Sociology, University of Minnesota, 1926-28; instructor in Sociology, Louisiana State University, 1928-29; associate professor of Rural Sociology, Oklahoma Agricultural and Mechanical College, 1929-36. In 1936 he became professor and head of the Department of Sociology and Rural Life at the last named institution which position he now holds. In addition he taught at the University of Arkansas during the summer of 1931, and at the University of Minnesota during the fall of 1935. His publications are devoted to monographs and articles dealing with different phases of rural life.

On May 30, 1920 he married Ola Edna Johnson at Commerce, Texas, and to them four children were born. Those surviving are Otis Dudley, December 2, 1921; Mary Anne, March 27, 1930; and Barbara, October 13, 1932. His home address is at 1625 College Avenue, Stillwater, Oklahoma.

EXAMINATION AND THESIS REPORT

Candidate: Otis D. Duncan

Major Field: Sociology

Title of Thesis: An Analysis of Farm Family Organization in Oklahoma

Approved:

J. Lynn Smith
Major Professor and Chairman

Charles W. Pipkin
Dean of the Graduate School

EXAMINING COMMITTEE:

J. Lynn Smith

R. [illegible]

Fred C Frey

[illegible] Thompson

E Hatt

[illegible]

Harold Hoffsommer

Date of Examination:

April 30, 1941